28th Electric Power Industry Reform Act (EPIRA) Implementation Status Report

(For the Report Period April 2016)

Prepared by the
Department of Energy

With Contributions from

Energy Regulatory Commission
Philippine Electricity Market Corporation
National Power Corporation
National Electrification Administration
Power Sector Assets and Liabilities Management Corporation
National Transmission Corporation

TABLE OF CONTENTS

ANNEXES

I. INTRODUCTION

The 28th Status Report on EPIRA implementation covers the period November 2015 to April 2016 with development highlights as follows:

Continuing privatization of the government's remaining assets and adoption of new timelines in light of directives to defer privatization of some assets specifically in Mindanao to address the supply shortage until the commercial operation of new power plants are realized;

Declaration of full contestability timelines and other relevant policies for the retail market and increasing participation of Contestable Customers (CC);

Continuing improvement in the WESM processes and operations arising from recommendations on audits, evaluation and incorporation of relevant policies to include among others, renewable energy and ancillary services;

Supply and demand monitoring to ensure supply security and reliability including continuing assistance for the development of generation, transmission and distribution projects; and

Continuing efforts to intensify rural electrification with the renewed targets for household electrification.

II. PRIVATIZATION

For the report period, PSALM continued activities for the privatization of Power Barge (PB) 104 and the Sucat Thermal Power Plant (STPP). New schedules for the privatization of other remaining plants were considered including Mindanao Coal-Fired Thermal Power Plant (MCFTPP) and Agus-Pulangui Hydro Electric Power Plants in line with the directives set of Congress and the DOE. Following are the recent developments on the privatization of the remaining plants and NPC-IPP contracts of the Power Sector Assets and Liabilities Management (PSALM) Corporation:

A. Privatization of Generating Assets

Power Barge (PB) 104

The bid for the PB 104 was successfully held last 15 April 2016 thru negotiated sale wherein SPC Island Power Corporation (SIPC) submitted the highest offer among the negotiating parties in the amount of PhP218,899,999.00. Other negotiating parties who participated were D.M. Wenceslao & Associates, Inc. (DMWAI) and Trans-Asia Oil and Energy Development Corp. The negotiated sale for PB 104 is consistent with EPIRA, COA Circulars and the Government Auditing and Accounting Manual and was adopted due to the failure of three (3) rounds of public biddings.

Further, SIPC was found to be compliant to post-qualification requirements pursuant to the Negotiation Procedures to include the issuance of the Notice of Award (NOA) upon completion of the negotiation process.

The Asset Purchase Agreement (APA) for the sale of PB 104 include the following provisions:

Buyer can transfer PB 104 anywhere in the Philippines; and
Buyer is not required to operate PB 104 in Mindanao.

Prior to turn-over of PB 104 to SIPC, PSALM shall seek a written confirmation from the DOE granting clearance for the transfer of said plant considering the supply-demand situation. After the completion of the negotiation process to include the DOE clearance, the PSALM Bids and Awards Committee (PBAC) will issue the NOA.

Sucat Thermal Power Plant (STPP)

The second round of bidding for STPP on 08 April 2016 was declared as failure since the qualified bidders were not able to meet the reserve price set by PSALM. The qualified bidders include G.G. Uy Bonapor Metal Contractor Company, Santa Clara International Corporation, VPD Trading and Riverbend Consolidated Mining Corp. (RCMC).

With the failed biddings for STPP, PSALM proposed for the conduct of negotiated sale for the same and will convene to discuss the next steps for the asset sale which shall cover the adoption of the APA, negotiation procedures, and timeline of activites to be presented to the PSALM Board for further instructions and approval. The new schedule for the STPP sale is tentatively set on the 2nd Semester of 2016.

Indicative Privatization Schedule

With concurrence from the DOE considering the supply-demand situation, PSALM updated its latest privatization targets for the remaining plants as shown in Table 1.

Table 1. Schedule of Privatization for Generating Assets as of 30 April 2016

Asset Type/ Plant Name	Rated Capacity (MW)	Bid Date	Turnover Date
Owned Generating Plants			
Malaya Thermal	650.00	1st Semester 2018	2nd Semester 2018
PB 104 (Diesel/Bunker)	32.00	1st Semester 2016	1st Semester 2016
Agus 1 & 2 Hydro	260.00	2017 Subject to consultation with Congress as provided under the EPIRA	
Agus 4 & 5 Hydro	213.10		
Agus 6 & 7 Hydro	254.00		
Pulangui Hydro	255.00		
Decommissioned Plants			
Sucat Thermal	850.00	2nd Semester 2016	2nd Semester 2016
Bataan Thermal	175.00	Sale/disposal is subject to resolution of court cases involving the asset	
Bataan Gas Turbines	120.00		

Source: PSALM

B. Transfer of NPC Contracted Energy Outputs to Independent Administrators

Unified Leyte Geothermal Power Plant (ULGPP) - Bulk Energy

During the report period, the negotiated sale with Unified Leyte Geothermal Energy, Inc. (ULGEI) was terminated by the PBAC due to failure of ULGEI to submit an Offer and the required Acceptance of the Negotiation Procedures.

The termination of the negotiation with ULGEI and the commencement of the new round of bidding in 2016 was approved by PSALM Board on 14 December 2015.

Meanwhile, PSALM is evaluating its options on the privatization of the Unified Leyte contracted energy in excess of the Strips of Energy. One of the options is to include PSALM's 40 MW Strips of Energy in the Unified Leyte IPPA subject to the policy direction of the DOE.

Mindanao Coal-Fired Thermal Power Plant (MCFTPP)

In view of the DOE's directives for PSALM to confirmation on the stabilization of power supply in Mindanao in 2016 as instructed by the PSALM Board during its 10 November 2015 meeting in relation to the deferment of the selection and appointment of IPPA for Mindanao CFTPP.

On 07 December 2015, the DOE directed PSALM stating that based on its projections, the power supply situation in Mindanao will normalize by the 2nd half of 2016. Accordingly, it interposes no objection to PSALM's proposed privatization schedule for Mindanao CFTPP in the 2nd semester of 2016 as there is sufficient time to realize stable power supply in Mindanao. With the DOE's directive, the PSALM Board's approval will be secured on the termination/annulment of the ongoing privatization process and commencement of the bidding activities in 2016.

PSALM is still studying its options on the privatization of Mindanao Coal. It is also continuously consulting the DOE on the power supply and demand outlook in Mindanao before it seeks further direction from the PSALM Board.

Table 2 shows the indicative schedule for the remaining IPP contracts for transfer to IPPAs:

Table 2. Indicative Privatization Schedule for the Appointment of IPPAs as of 30 April 2016

Grid	Plant Name	Contracted Capacity (MW)	Bid Date	Turnover Date
Luzon Grid	Casecnan Multi-Purpose Hydro	140.00	Privatization is under DOF review	
	Benguet Mini Hydro**	30.75	IPP contract to expire in 2018	
	Caliraya-Botocan-Kalayaan Hydro	728.00	(Subject to further review and DOE's policy direction)	
	Sub-total Luzon	**898.75**		
Visayas Grid	Unified Leyte - Bulk Energy	160.00*	2016 – Subject to DOE's policy direction	
	- Security Strip	40.00		
	Sub-total Visayas	**200.00**		
	SPPC Diesel**	50.00	IPP contract will expire in 2016	
	Mindanao Coal-Fired	200.00	2016 – Subject to DOE's policy direction	
	Sub-total Mindanao	**250.00**		
	GRAND TOTAL	**1,348.75**		

** Based on the average daily declared capability by the Energy Development Corporation (EDC) of about 400 MW less the 200 MW sum of Strips of Energy and 40 MW security capacity of PSALM.*
** * IPP contracts not subject to privatization/asset sale*
Source: PSALM

C. Other Disposable Assets

Disposal of Assets Sale of Unserviceable Assets, Junk, Scrap Materials and Structures located in Visayas and Mindanao Plant Site

On 14 December 2015, the second (2nd) Round of Bidding for the Package Sale of Unserviceable Assets, Junk and Scrap Materials was approved by the PSALM Board at the following plants:

1. Cebu Diesel Power Plant II (CDPP II) – Toledo City, Cebu
2. Palinpinon Geothermal Power Plant (PGPP) – Valencia, Negros Oriental
3. Bohol Diesel Power Plant (BDPP) – Tagbilaran City, Bohol
4. Aplaya Diesel Power Plant (ADPP) – Jasaan, Misamis Oriental

On 7 April 2016, the PSALM Board approved the issuance of the Final Bidding Documents to JCZS Trading (JCZS) and Bonapor Metal Contractor Services and General Merchandise (Bonapor).

On 14 April 2016, JCZS and Bonapor submitted their bids, however both were rated as "non-compliant" by the BAC for failure to provide proper Bid Security. Hence, the BAC Disposal declared a failure of bidding for the Unserviceable Assets, Junk, Scrap Materials and Structures located in Visayas and Mindanao Plant Site.

Negotiated Sale of Unserviceable Assets, Junk, Scrap Materials and Structures located at Panay Diesel Power Plant (DPP) and General Santos DPP

On 21 December 2015, PSALM and JCZS Trading entered into a negotiated sale for the unserviceable assets, junk, scrap materials and structures located at Panay DPP and General Santos DPP in the amount of One Million Two Hundred Thirty Eight Thousand Pesos (PhP1,238,000.00), which is above the Minimum Bid Price of One Million Two Hundred Thirty One Thousand Pesos (PhP1,231,000.00).

On 12 February 2016, PSALM issued the NOA to JCZS Trading. In accordance with the provisions in the Final Transaction Document, JCZS Trading posted its performance security in the amount of PhP123,800.00 on 21 December 2015 and paid the amount of PhP1,238,000.00 on 16 February 2016 for the unserviceable assets, junk, scrap materials and structures located at Panay DPP and GenSan DPP.

On 03 March 2016, excluded assets located at Panay DPP and General Santos DPP were awarded to JCZS Trading through the issuance by PSALM of the Notice to Proceed (NTP). As stated in the contract, JZCS Trading must complete the hauling/removal of the assets within seventy-five (75) days from receipt of the NTP.

D. Privatization Proceeds

As of 1st quarter 2016, PSALM, through the privatization of generation assets, the transmission business, and the IPP contracted capacities, has generated a total of US$19.9 billion. Also as of this period, the actual collection amounted to US$10.3 billion.

Table 3. Privatization Proceeds as of 1st Quarter 2016, (in US$ Billion)

Privatization Assets	Generated	Collected	Balance
Generating Assets	3.543	3.543	0.000
Decommissioned Plants	0.004	0.004	0.000
Transmission Asset (TransCo)	6.383	3.921	2.462
Appointment of IPPAs	9.957	2.876	7.081
TOTAL	**19.887**	**10.344**	**9.543**

Source: PSALM

PSALM utilizes its privatization proceeds to cover maturing obligations such as regular debt service, debt prepayment, IPP obligations, TransCo operating expenses, and other privatization-related expenses.

Out of the US$9.740 billion privatization proceeds utilized, US$9.634 billion or 99 percent was used for the liquidation of financial obligations. The difference between the total amount collected and total utilization in the amount of US$0.604 billion is placed in temporary investments while awaiting utilization.

Table 4. Privatization Proceeds Utilization as of 1st Quarter 2016

Particulars	In US$ Billion
Debt Prepayment	1.298
Regular Debt Service	5.668
Lease Obligations	2.667
Others	0.106
TRANSCO Opex	0.001
TOTAL	**9.740**

USD:PhP = 46.108 (BSP Guiding Rate dated 31 March 2016)
Source: PSALM

E. Concession of the National Transmission Network

Pursuant to the Concession Agreement (CA) between the Government and the National Grid Corporation of the Philippines (NGCP), Republic Act No. 9511 or the Franchise Law and the Construction Management Agreement (CMA), the National Transmission Company (TransCo) continues to monitor the performance and compliance of NGCP to these Agreements.

For the report period, the draft report of the Technical Working Group (TWG) on the inspection of NGCP's books and records for CY 2013 is still for consolidation and subsequent submission to the Presidents of PSALM and TransCo.

On 04 November 2015, the copy of the report of the 2012 Technical, Regulatory, Financial, Legal Assessment Team (TRFLAT) was sent to NGCP regarding the assessment of NGCP's compliance with the provisions of the CA for CY 2012 to the Presidents of National Transmission Corporation (TransCo) and PSALM.

PSALM has informed Transco in their letter dated 07 March 2016 that PSALM Finance Group is assigned to lead the financial aspects of the compliance while TransCo will lead the regulatory, administrative and legal compliance.

On 18 April 2016, Transco in their letter to PSALM recommended that a joint PSALM and TransCo team should be created to undertake the assessment of NGCP's compliance with the CA in all aspects – legal, regulatory, technical and financial. To date, the composition of the TRFLAT is to be determined.

Meanwhile, Transco continues on the conduct of inspection of the assets condition and PUC accomplishments consistent with the inspection protocol established with the concessionaire. Observation Reports were forwarded to the Concessionaire for their corrective actions. Annex 1 shows the summary of observations and responses of the Concessionaire.

With regard to NGCP's compliance to CMA, TransCo conducted inspections of Project Under Construction (PUC) and new projects' summary of observations and the responses of the Concessionaire as shown in Annex 2.

F. Sale of Sub-Transmission Assets (STAs)

The sale of TransCo's STAs involves one hundred thirty one (131) sale contracts and one hundred seven (107) interested distribution utilities (DUs), most of which are electric cooperatives (ECs). The STAs include some 5,900 ckt-km of mostly 69 kV transmission lines and 1,600 MVA of substation capacity.

As of 30 April 2016, TransCo has signed one hundred seventeen (117) sale contracts with eighty one (81) DUs/ECs/consortia amounting to PhP5.974 billion. These sales cover an aggregate length of 4,040 ckt-kms of sub-transmission lines and 36,300 sub-transmission structures and 885 MVA of substation capacity. Of the one hundred seventeen (117) sale contracts, sixty eight (68) contracts with total sale price of PhP3.521[1] billion have been of which ten (10) contracts amounting to PhP230.2 million were disapproved while the 58 are approved with/without modifications. The rest of the sale contracts are for filing with the ERC for evaluation and approval.

Following the EPIRA provision to extend concessional financing to ECs, TransCo implemented lease purchase arrangements with a term of twenty (20) years. Of the one hundred seventeen (117) sale contracts already signed, seventy two (72) are under lease purchase agreements with sixty one (61) ECs/consortia, valued at PhP3.9 billion. The remaining forty five (45) involved sales to private DUs/consortia.

[1] *The total ERC approved amount of PhP3.09 billion is lower compared to the total contract amount of PhP3.521 billion due to the following reasons:*

a) Exclusion of some assets from the ERC approval due to reclassification from sub-transmission to transmission assets
b) The lower amount of valuation was used as basis of the ERC approval
c) Exclusion of some assets from the ERC approval since said assets are not yet connected to the sold assets
d) Exclusion of some assets from the ERC approval due to decommissioning
e) DU withdrawal from the ERC Joint Application of the sale contract
f) The STA in the sale contract should be sold to a consortium instead of a single DU because the STA is in a super loop configuration.

TransCo is looking forward to the sale of 15 ckt-km of sub-transmission lines and 15 MVA of substation equipment to one (1) interested DU/consortium.

Table 5 shows the summary of the sale as of the report period.

Table 5. Summary Table of STAs Sale Per Region as of 30 April 2016

	DUs	Sale Amount in PhP (Original Contract)	CKM
North Luzon	36	1,661,418,522.27	1,275
South Luzon	19	1,114,191,983.37	467
Visayas	27	1,194,669,678.39	685
Mindanao	35	1,953,073,857.63	1,585
TOTAL	**117**	**5,923,354,041.66**	**4,012**

Source: Transco

III. ELECTRICITY RATES

This Section provides updates on electricity price data and other significant related developments based on information from the ERC, TransCo, PSALM, NPC, NEA and distribution utilities, among others.

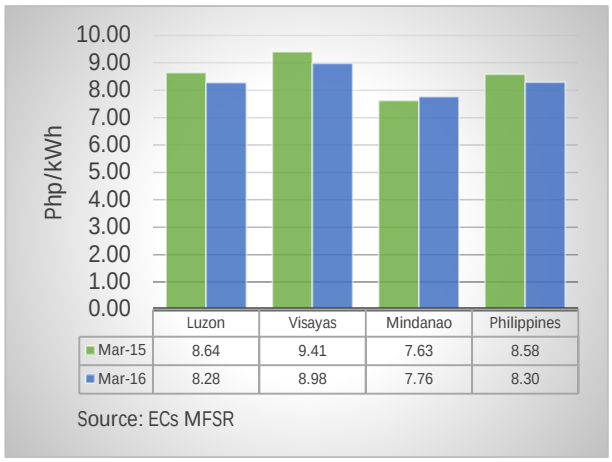
A. Average Electricity Rates

The country's average electricity rates as of March 2016 is PhP7.81/kWh, 94 centavos lower compared with the March 2015 national average systems rate. Significant reduction in electricity rates was posted in Luzon Grid from PhP8.97/kWh in March 2015 to PhP7.76/kWh in March 2016 or a reduction of Php1.21/kWh. Visayas grid also enjoyed a reduction of 39 centavos in the same period from Php8.95/kWh to Php8.56/kWh. Mindanao grid however posted a slight increase of 10-centavos from Php7.22/kWh in March 2015 to Php7.32/kWh in March 2016.

Figure 1. National Average Systems Rate

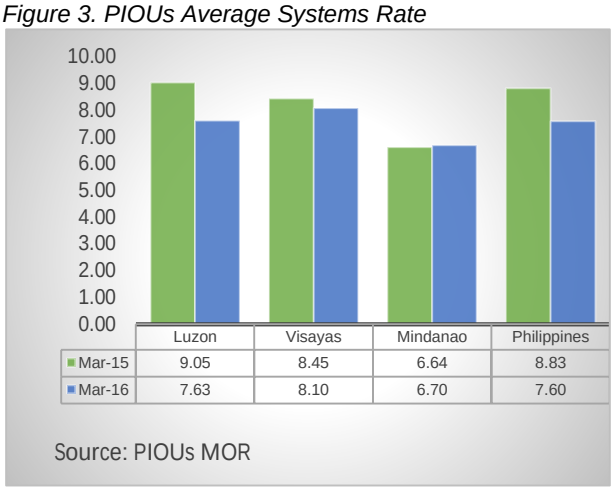
Meanwhile, the ECs' average systems rates for March 2016 is at PhP8.30/kWh, 28 centavos lower compared to March 2015 rate. Among the three grids, only Mindanao grid experienced an increase of 13 centavos from Php7.63/kWh in March 2015 to Php7.76kWh in March 2016. Luzon and Visayas grids posted a reduction of Php0.36/kWh and Php0.43/kWh respectively.

Figure 2. Electric Cooperatives' Average Systems Rate



The ECs' national average unbundled residential electricity rate for March 2016 was PhP 9.58/kWh. Generation costs comprised forty eight percent (48%) of ECs' national average effective electricity rates followed by distribution costs' share of eighteen percent (18%). Among the three grids, Mindanao remained to enjoy the lowest generation costs at PhP4.24/kWh considering that bulk of electricity generated in Mindanao are priced at the highly regulated NPC generation rate which are produced mostly from hydroelectric power plants. Visayas grid has the highest average effective residential electricity rates at PhP10.36/kWh of which generation costs comprise fifty one percent (51%). Among

Figure 3. PIOUs Average Systems Rate



the grids, distribution costs is the next largest component of electricity cost followed by transmission costs.

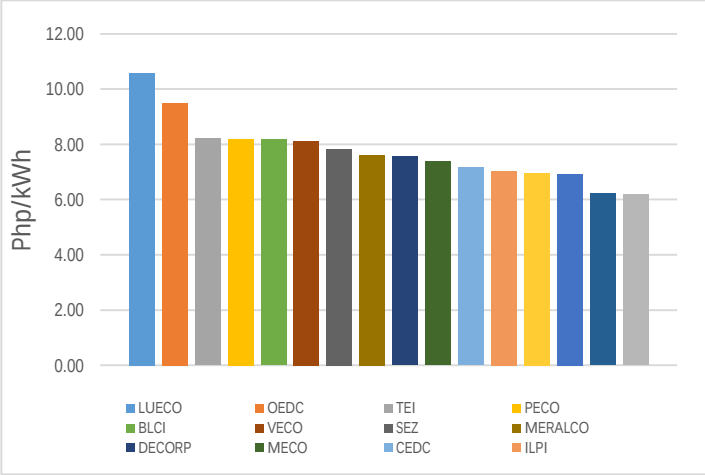
The national average systems rates of PIOUs also posted a significant reduction of PhP1.23/kWh from PhP8.83/kWh in March 2015 to PhP7.60/kWh in March 2016. However, Mindanao grid had a slight increase of Php0.06/kWh while the Luzon and Visayas grids enjoyed an average reduction of Php0.89/kWh.

Table 6. EC's Unbundled Average Effective Residential Electricity Rates, March 2016

Bill Subgroup	LUZON		VISAYAS		MINDANAO		NATIONAL	
	PhP/kWh	% share	PhP/kWh	% share	PhP/kWh	% share	PhP/kWh	% share
Generation	4.3011	45.78	5.3216	51.39	4.2409	47.13	4.6212	48.22
Transmission	1.2055	12.83	0.8607	8.31	0.8171	9.08	0.9611	10.03
System Loss	0.7857	8.36	0.8434	8.14	0.7040	7.82	0.7777	8.12
DSM[1]	1.7074	18.17	1.8190	17.57	1.6791	18.66	1.7352	18.11
RFSC[2]	0.3566	3.80	0.3558	3.44	0.4650	5.17	0.3925	4.10
Other Charges[3]	(0.0862)	(0.92)	(0.0123)	(0.12)	(0.0716)	(0.80)	(0.0567)	(0.59)
Subsidy Charges[4]	0.0668	0.71	0.0853	0.82	0.0499	0.55	0.0673	0.70
Universal Charges[5]	0.3941	4.20	0.3902	3.77	0.4009	4.46	0.3951	4.12
Other Taxes[6]	0.0499	0.53	0.0736	0.71	0.0683	0.76	0.0639	0.67
VAT	0.6137	6.53	0.6182	5.97	0.6449	7.17	0.6256	6.53
Total	9.3946	100.00	10.3555	100.00	8.9985	100.00	9.5829	100.00

Among the PIOUs, La Union Electric Company (LUECO) has the highest average effective rate at PhP10.58/kWh for the billing period March 2016. On the other hand, Cagayan Electric Power and Light Company (CEPALCO) has the lowest average effective rates at PhP6.18/kWh for the same billing period which can be attributed to its lower generation costs mainly sourced from NPC. The variation on the distribution utilities average rates may be attributed to their supply mix, customer density and relative efficiency.

Figure 4: PIOUs Average Systems Rate, March 2016



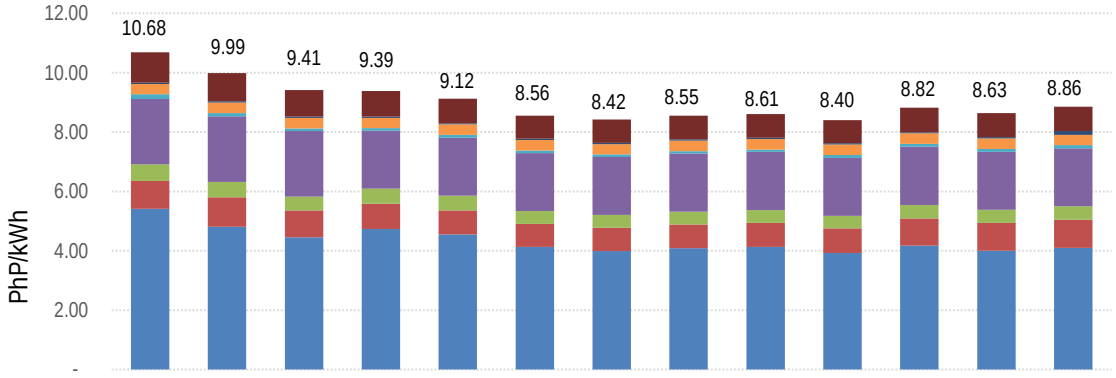
Meanwhile, for the April 2016 billing of MERALCO, its effective residential rates for the different residential customer classes ranged from PhP8.86/kWh to PhP10.06/kWh of which the highest component was generation costs at PhP4.00/kWh. MERALCO distribution charges for its different residential customer classes ranges from twenty three to thirty percent (22-30%) of the total effective residential rates equivalent to PhP1.96/kWh and PhP3.02/kWh, respectively. Systems loss charges on the other hand was 45-centavos/kWh. The April 2016 MERALCO bill is higher compared to the March 2016 bill due mainly to higher generation costs and the increase in the FIT-All collection by 8 centavos/kWh. On a year ago comparison, it can be noted that the MERALCO rates for residential customers significantly decline by PhP1.82/kWh from the April 2015 level of PhP10.68/kWh due to reductions in generation, distribution and systems loss charges.

Table 7. Summary of MERALCO Residential Unbundled Power Rates, April 2016 (PhP/kWh)

BILL SUBGROUP	0 to 200 kWh	% Share	201 to 300 kWh	% Share	301 to 400 kWh	% Share	Over 400 kWh	% Share
Generation	4.0966	46%	4.0966	45%	4.0966	43%	4.0966	41%
Transmission	0.9549	11%	0.9549	10%	0.9549	10%	0.9549	9%
System Loss	0.4489	5%	0.4489	5%	0.4489	5%	0.4489	4%
Distribution	1.9561	22%	2.2370	24%	2.5180	27%	3.0284	30%
Subsidies*	0.1011	1%	0.1011	1%	0.1011	1%	0.1011	1%
Universal Charge	0.3524	4%	0.3524	4%	0.3524	4%	0.3524	4%
Fit-All Renewable	0.1240	1%	0.1240	1%	0.1240	1%	0.1240	1%
Government Taxes	0.8220	9%	0.8573	9%	0.8926	9%	0.9566	10%
TOTAL	**8.8560**	**100%**	**9.1722**	**100%**	**9.4885**	**100%**	**10.0629**	**100%**

** Lifeline Rate Charges (applicable to 101 kWh consumption and up) + Cross Subsidy Charge*
*** For fixed 200, 300, 400 & 500 kWh consumption respectively*
Source: http://www.meralco.com.ph

Figure 5. MERALCO Effective Unbundled Residential Rates for a Typical 200-kWh Customers (April 2015 to March 2016)



	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16
Gov't Taxes	1.02	0.95	0.89	0.87	0.83	0.78	0.79	0.80	0.80	0.78	0.83	0.81	0.82
Fit-All Renewable	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.12
Universal Charge	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Subsidies	0.16	0.12	0.09	0.08	0.09	0.09	0.08	0.08	0.08	0.09	0.10	0.10	0.10
Distribution	2.20	2.20	2.20	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96
System Loss	0.56	0.52	0.47	0.50	0.49	0.43	0.43	0.43	0.43	0.42	0.46	0.44	0.45
Transmission	0.94	0.99	0.90	0.85	0.81	0.77	0.79	0.81	0.81	0.84	0.92	0.94	0.95
Generation	5.41	4.81	4.46	4.74	4.55	4.13	4.00	4.08	4.13	3.92	4.17	4.00	4.10

Source: MERALCO

B. Transmission Rates and Regulatory Updates

Following the Energy Regulatory Commission's (ERC) Order dated 21 January 2016 on ERC Case No. 2015-173 RC, the Power Delivery Service (PDS) Rates shall be computed monthly based on the approved Interim Maximum Annual Revenue for Calendar Year 2016 (iMAR 2016) of PhP41,653.82 Million consistent with 2006 Revised Open Access Transmission Service (OATS) Rules. For April 2016, PDS rates for Luzon, Visayas and Mindanao decreased by 1.270%, 2.250% and 0.760%, respectively.

Meanwhile, the System Operator (SO) Charge and Metering Service Provider (MSP) Charges are based on the approved rates under the ERC Order on MAR 2015.

In terms of Ancillary Service (AS) cost, there was an increased PhP19.50 Mn in Luzon which is around 1.13% of the previous month's AS cost due to the increase in the total scheduled capacity. For Visayas, AS cost increased by PhP 8.77 Mn or 10.05% as compared to the previous month's AS cost due to the increase in the total scheduled

capacity. For Mindanao, AS cost decreased by PhP 4.19Mn which is about 10.33% of the previous month's cost due to the decrease in the total scheduled capacity.

Table 8. Transmission Charges for the month of April 2016: (NGCP)

Particulars	Luzon		Visayas		Mindanao	
	Firm (P/kW/mo)	Non-Firm (P/kW/da)	Firm (P/kW/mo)	Non-Firm (P/kW/da)	Firm (P/kW/mo)	Non-Firm (P/kW/da)
Power Delivery Service (PDS)	267.5574	8.7964	251.9699	8.2839	273.8961	9.0048
System Operator (SO) (uniform to LVM)	15.82	0.5201	15.82	0.5201	15.82	0.5201
Metering Service Provider (MSP)						
Common Metering Charge			3,618.00 Php per metering point per month			
Metering Service Charge / Voltage Level			Full Metering Charge		Meter only Charge	
			Php/Metering Pt/Mo.		Php/Metering Pt/Mo.	
500/230kV			39,670.00		7,433.00	
138/115kV			26,741.00		5,010.00	
69kV			17,372.00		3,255.00	
34.5/23/kV			10,032.00		1,880.00	
13.8kV and below			5,241.00		982.00	
Force Majeure Event Pass-Thru Amount	0.000	0.0000	0.0000	0.0000	0.000	0.000
Ancillary Service Charge (AS)						
Regulating Reserve	119.9147	3.9424	0.0000	0.0000	20.9394	0.6884
Contingency Reserve			**C-N-P/L-S-B**	**C-N-P/L-S-B**		
	20.5167	0.6745	2.1013	0.0691	4.5772	0.1505
Dispatchable Reserve	26.6441	0.8760	51.7992/ 31.9964	1.7030/ 1.0519	0.00\00	0.0000

	As of April, 2016			As of March, 2016		
As per type of Customer Segment	AS Cost (In Php)	Firm Rate (P/kW/mo)	Non-firm Rate (P/kW/day)	AS Cost (In Php)	Firm Rate (P/kW/mo)	Non-firm Rate (P/kW/day)
Luzon						
Regulating Reserve	1,227,847,113.35	119.9147	3.9424	1,098,867,880.91	113.3638	3.7270
Contingency Reserve	210,078,645.70	20.5167	0.6745	398,514,178.85	41.1124	1.3516
Dispatchable Reserve	272,818,898.07	26.6441	0.8760	232,859,268.00	24.0227	0.7897
Visayas						
Contingency Reserve Cebu-Negros-Panay	3,325,830.90	2.1013	0.0691	4,264,203.80	2.8937	0.0951
Dispatchable Reserve Cebu-Negros-Panay	81,983,736.30	51.7992	1.7030	75,666,578.81	51.3481	1.6881
Leyte-Samar-Bohol	10,729,523.31	31.9964	1.0519	7,336,559.33	22.7906	0.7493
Mindanao						
Regulating Reserve	36,714,830.85	20.9394	0.6884	36,057,730.30	20.5374	0.6752
Contingency Reserve	8,025,538.40	4.5772	0.1505	4,493,284.80	2.5592	0.0841

C. Feed-in Tariff

In an order dated 16 February 2016 on ERC Case No. 2015-216 RC, ERC provisionally approved a FIT-All rate of PhP0.1240/kWh to be collected from all On-Grid electricity consumers effective the succeeding billing period following the receipt by TRANSCO of the instant Order. NGCP, being a Collection Agent of the FIT-All, implemented the FIT-All rate of PhP0.1240/kWh starting April 2016 billing month.

D. Administration of Universal Charge (UC)

This section provides development on the implementation of UC pursuant to *Section 34 of the EPIRA*. Highlights include status of collection and disbursements, updates on PSALM's application for the recovery of stranded contract costs and stranded debts, and the implementation of UC collection from self-generating facilities.

As of 30 April 2016, remittances of collecting entities (CEs) to PSALM amounted to PhP92.837 billion with interest earnings from deposits and placements of UC funds amounted to PhP0.146 billion. On the other hand, UC fund disbursement amounted to PhP92.539 billion. Below are the details of UC remittances, interests and disbursements:

Table 9. UC Collections as of 30 April 2016 (in Billion PHP)

PARTICULARS	REMITTANCES	INTERESTS	DISBURSEMENTS	BALANCE
Special Trust Fund – Missionary Electrification (ME) NPC-SPUG	54.390	0.044	54.417	0.017
Special Trust Fund – ME Renewable Energy Developer Cash Incentive (REDCI)	0.236	0.000	0.133	0.103
Special Trust Fund – Environmental Charge (EC)	1.707	0.094	1.491	0.310
Special Trust Fund – Stranded Contract Cost (SCC)	36.504	0.008	36.498	0.014
TOTAL	**92.837**	**0.146**	**92.539**	**0.444**

The following disbursements/fund transfers were made from the respective UC Special Trust Fund (STF):

UC-ME and EC

PhP54.417 billion and PhP1.491 billion were paid to NPC, chargeable against the UC-ME and EC fund, respectively, in accordance with the provisions of EPIRA and the Energy Regulatory Commission (ERC) decisions/orders.

UC-SCC

PhP36.498 billion was transferred from the UC-Stranded Contract Cost (UC-SCC) Special Trust Fund (STF) account to PSALM's UC-SCC Special Fund Account (SFA), following PSALM Board-approved Guidelines and Procedures on Disbursement and Utilization of UC-SCC of NPC.

For the period November, 2015 to April, 2016, PSALM received Php5.922 billion in UC remittances broken down as follows:

Table 10. UC Remittances to PSALM for the period November 2015 to April 2016 (In Billion PhP)

Month	UC-ME (NPC-SPUG)	UC-ME (REDCI)	UC – EWR	UC - SCC	Total/Month
November	0.906*	0.010*	0.015	1.142	2.073
December	0.844	0.010	0.013*	1.048	1.915
January	0.917	0.010	0.015	1.145	2.087
February	0.858	0.009*	0.014	1.075	1.956
March	0.826	0.009	0.013	1.031	1.879
April	0.904	0.010	0.015	1.126	2.055
Total	**5.255**	**0.058**	**0.085**	**6.567**	**11.965**

** Difference of .001 with previous reports was due to rounding off*
Source: PSALM

For the period January to April 2016, PSALM disbursed PhP3.520 billion to NPC-SPUG to fund the missionary electrification functions, chargeable against the UC-ME fund in accordance with various ERC Decisions/Orders:

Table 11. UC Disbursements of PSALM for the Period November, 2015 – April, 2016 (in Php Billion)

Month	ME (NPC-SPUG)	ME (REDCI)	UC-SCC[1/]	Total/Month
November	0.906*	0.003	1.143	2.052
December	0.834	-	1.036	1.870
January	0.925	-	1.151	2.076
February	0.857	0.002	1.075	1.934
March	0.823	0.007	1.026	1.856
April	0.915	0.002	1.149	2.066
Total	**5.260**	**0.014**	**6.580**	**11.854**

[1/] Transferred from the UC-SCC STF to the UC-SCC SFA of PSALM
Source: PSALM

In accordance with the ERC decision dated 28 January 2013 under Case No. 2011-091 RC, the amount of PhP4.401 billion was transferred from the UC-SCC STF to the UC-SCC SFA for the period January to April 2016.

The table below shows the ERC-approved UC rates being implemented as of 30 April 2016:

Type	PhP/kWh
UC-ME	0.1561
UC-EC	0.0025
UC-SCC	0.1938
Total	**0.3524**

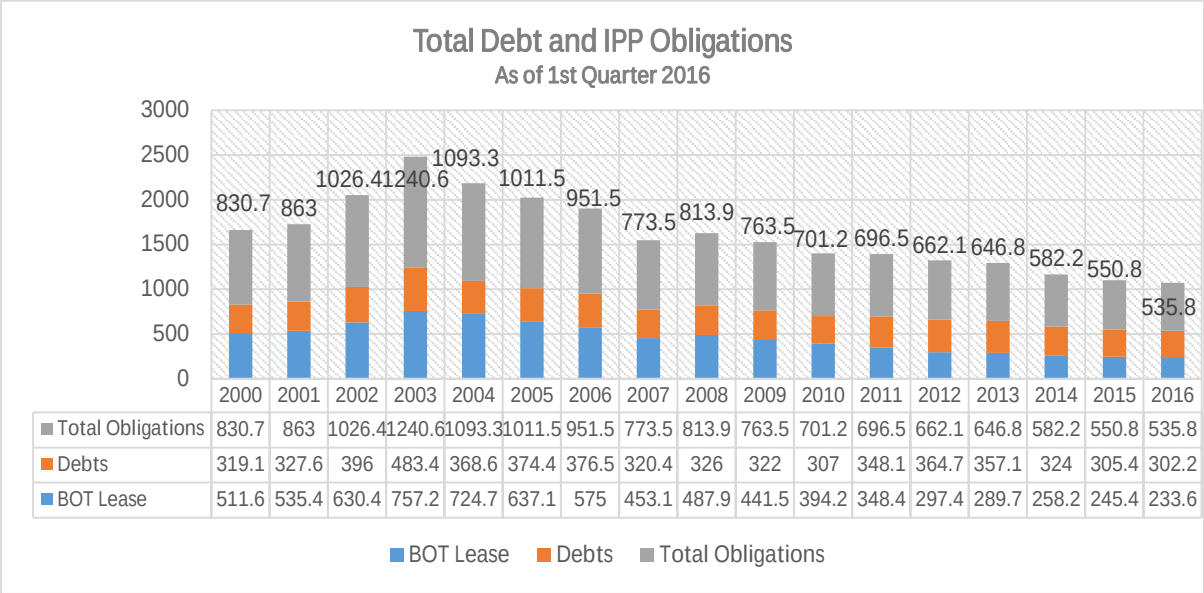
E. PSALM Liability Management

From the beginning balance in 2000 of PhP830.7 billion, PSALM's financial obligations peaked at PhP1.2 trillion in 2003, broken down into PhP483.4 billion debts and PhP757.2 billion BOT lease obligations. The increase was brought about by the following:

New capacities were commissioned after 2001 (Bakun, Ilijan Natural Gas, San Roque Multi Purpose and Kalayaan 3 and 4);
Further Peso devaluation by 8% from 2001 level (PhP55.569=1USD); and
New debts were incurred since Internal Cash Generated was able to fund only 10% of maturing obligations.

Figure 6 shows the movement of the financial obligations of PSALM from 2000 to 31 March 2016.

Figure 6. Total Debt and IPP Obligations as of 1st Quarter 2016 (PhP Billion)



Through the efforts of PSALM in continuously implementing its liability management program and strategies, PSALM's financial obligations was reduced to PhP535.79 billion (or USD11.62 billion) as of 1st quarter 2016, or a decrease of PhP704.81 billion from the 2003 level of PhP1.241 trillion.

Table 12. Financial Obligations as of 1st Quarter 2016

	PhP Equivalent (In Billions)	USD Equivalent (In Billions)
Debts	302.17	6.55
IPP Lease Obligations	233.62	5.07
Total	535.79	11.62

In terms of currency, more than half (51.50%) of PSALM's debt is denominated in dollars, amounting to PhP155.63 billion. Peso-denominated debt accounts for 40.13%, equivalent to PhP121.25 billion. The remaining debt is in Japanese Yen (8.37%), amounting to PhP25.28 billion.

Fund Management Activities

For the report period, PSALM has collected PhP19.65 billion from the Department of Public Works and Highways (DPWH), Department of Environment and Natural Resources (DENR) and National Irrigation Administration (NIA) for the reimbursement of advances of PSALM/NPC for the San Roque Multi-Purpose Project (SRMPP advances), with the following breakdown:

Table 13. Debt Profile By Currency as of 1st Quarter 2016

Currency	Amount in PhP equivalent (in Millions)	Amount in USD equivalent (In Millions)	Percent to Total
JPY	25,283.3	548.3	8.37%
PHP	121,253.9	2,629.8	40.13%
US$	155,630.5	3,375.3	51.50%
Total	302,167.7	6,553.4	100.00%

Exchange Rates Used: BSP Guiding Rate dated 31 March 2016
USD : PhP 1.00 = 47.1660
JPY : PhP 1.00 = 0.3920
EUR : PhP 1.00 = 51.7411
KRW : PhP 1.00 = 0.0404
Source: PSALM

On 23 March 2016, PSALM was able to collect from the DENR the amount of PhP596,170,000.00 as partial payment to the advances made by PSALM for the non-power component of the San Roque Multi Purpose Project. The amount will be deposited to PSALM's Investment Fund under the Fund Management Agreement executed by PSALM and the Bureau of Treasury.

Agency	Previous Years	2015	Total (In PhP)
DPWH	160,370,000	-	160,370,000
DENR	4,887,000,000	596,170,000	5,483,170,000
NIA	14,007,000,000	-	14,007,000,000
Total	**19,054,370,000**	**596,170,000**	**19,650,540,000**

F. Lifeline Rate Subsidy Program

The provision of lifeline rate subsidy is allowed by *Section 73 of the EPIRA* which defines the lifeline rate as a subsidized rate given to low-income captive market end-users who cannot afford to pay at full cost. This program is extended for another ten (10) years with the enactment of Republic Act 10150 on June 2011.

For the period January to March 2016, the average monthly total amount of subsidy provided to lifeline consumers was PhP328 million which translated to an average of PhP2.38/kWh per month subsidy to lifeline customers in the whole country. The amount of subsidy paid for by the non-lifeline customers of other PDUs is at PhP0.06/kWh, while those in the MERALCO franchise area is at PhP0.10/kWh. For the ECs, non-lifeline customers subsidized an average of PhP0.06/kWh.

Table 14 shows the January to March 2016 status of lifeline rate subsidy implementation, as provided by the ERC.

Table 14. Summary of Lifeline Subsidy Implementation, January 2016 - March 2016

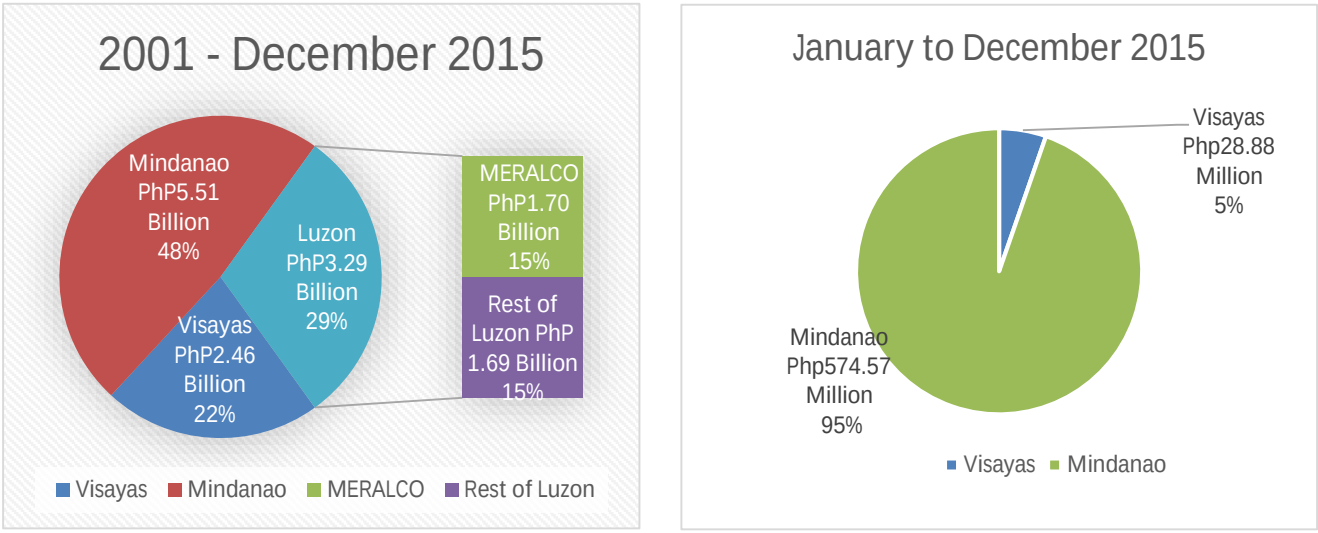
Particulars	MERALCO	Other PDUs	ECs	Total
Average Monthly Total Amount of Subsidy Provided by Non-Lifeline Customers (in Php)	282,418,425.24	16,006,872	29,716,318	328,141,614.73
Average Monthly Total Consumption of Lifeline Customers (kWh)	115,984,725.33	8,571,033	13,204,374	137,760,132.44
Average Monthly Total Consumption of Non-Lifeline Customers (kWh)	2,887,348,181.67	247,659,850	528,507,280	3,663,515,311.78
Average Amount of Subsidy Provided to Lifeline Customers (In PhP/kWh)	2.43	1.87	2.25	2.38
Average Amount of Subsidy Paid by Non-Lifeline Customers (In PhP/kWh)	0.10	0.06	0.06	0.09

Based on data from ERC Investigation & Enforcement Division

G. Mandatory Rate Reduction (MRR)

Pursuant to *Section 72 of the EPIRA,* NPC is continuously granting to residential customers the mandatory discount of 30-centavos/kWh. For the period January to December 2015, total discounts granted by NPC have amounted to PhP603.46 million of which 95% were availed by residential customers in Mindanao and 5% in the Visayas. With the expiration of NPC's Transition Supply Contracts in Luzon due to continuing privatization, no MRR was incurred by NPC for Luzon from June 2013 onwards. Since the MRR was granted in 2001, NPC has incurred a total of PhP31.36 billion of which 48% was availed by Mindanao residential customers while 22% and 29% went to Luzon and Visayas, respectively. Data for MRR is summarized under Annex 11.

Figure 7. Amount Subsidized by NPC for Mandatory Rate Reduction



IV. COMPETITION

This section provides an update on key areas of competition to include the operation of the WESM, commercial operations of Retail Competition and Open Access (RCOA), implementation of the Reserve Market, and monitoring of compliance to *Section 45 of the EPIRA.*

A. Wholesale Electricity Spot Market (WESM) Operational Highlights

As of 25 April 2016, the integrated WESM (Luzon and Visayas) has a total of two hundred seventy one (271) registered participants comprised of one hundred one (101) generating companies and one hundred seventy one (171) customers consisting of fifteen (15) Private Distribution Utilities (DUs), seventy one (71) Electric Cooperatives (ECs), seventy nine (79) Bulk users, and five (5) Wholesale Aggregators.

Table 15. Registration Update as of 25 April 2016 (Luzon and Visayas)

CATEGORY		EXPECTED (Luz& Vis)	REGISTERED					
			DIRECT			INDIRECT		
			LUZ	VIS	LUZ/ VIS	LUZ	VIS	LUZ/ VIS
Generation Companies		**101**	**65**	**32**	**4**	**0**	**0**	**0**
Customer Trading Participants	Private DUs & LGUs	15	8	3	0	4	0	0
	ECs	71	29	28	0	14	0	0
	Bulk Users	79	8	7	1	49	12	2
	Wholesale aggregators	5	0	0	5	0	0	0
Total Customer Trading Participant		**170**	**45**	**38**	**6**	**67**	**12**	**2**
TOTAL PARTICIPANTS/ APPLICANTS		**271**	**110**	**70**	**10**	**67**	**12**	**2**

Source: PEMC

For the billing period of November 2015 to January 2016, the average system-wide demand constantly decreases from 8,119MW in November 2015 to 7,696MW in December 2015 to 7,406MW in January 2016 attributed to the observance of holiday season and cooler weather during the period. Starting from the billing period of February to April, the average system demand showed a continuous increase from 7,729MW in February to 8,185MW in March and 8,863MW in April as summer months approaches and as warmer than average air temperature were observed during the month. Given the decreasing trend of demand from November to January, the lowest demand was noted at 5,387MW on 02 November 2015 at 0600H during the observance of All Saints Day and All Souls Day. The peak demand registered at 11,178MW during the 1400H trading interval on 25 April 2016. Demand in Luzon and Visayas largely decline in December 2015 by 5.4% and 4.31% as compared to November 2015 while exhibited growth in April by 8.2% and 8.9%, respectively.

In terms of supply, the total WESM registered capacity slightly increased to 16,140MW during the billing month of November 2015 influenced by the entry of 34MW non-scheduled biomass-fueled generating unit of Victorias Milling Company, Inc. on 16 November 2015 and increase in registered capacity of San Roque HEP with 24MW. In December 2015, the registered capacity remained at 16,140MW but increased to 16,227MW in January exhibited by the continuous growth of renewable energy sources in the country. This was manifested by the participation of the following plants in the WESM during the latter part of January: 12MW biomass plant of Green Innovations for Tomorrow Corporation (GIFT), 50MW solar plant of PetroSolar Corporation and 14.5MW solar plant of YH Green Energy, Incorporated. Energy Development Corporation likewise registered an additional solar facility with the capacity to generate electricity up to 2.66MW. Consistently, the total registered capacity also increased to 16,315MW in February 2016 due to the growing solar industry in the country as demonstrated by the entry of four (4) solar plants in the WESM with a combined capacity of about 94MW, namely: 16.32MW

Currimao Solar Power Plant, 50MW Calatagan Solar Farm, 13.14MW RASLAG II Solar Power Plant and 14.4MW Bais Solar Power Plant. In March, registration of plants continued to increase by the entry of seventeen (17) new plants such as 414.1MW San Gabriel natural gas plant located in Luzon and 135MW PCPC coal plant in Visayas Clark Solar plant (18MW), Mariveles Solar plant (16MW), San Ildefonso Solar plant (15MW), FCRV Solar plant (9.075MW), Morong Solar plant (5MW), Palauig Solar plant (5MW), Lian Solar plant (1.6 MW), and San Rafael Solar plant (1.2MW) in the Luzon region and Cadiz Solar plant (108.12 MW), SN Carlos Sun Solar plant (46.8MW), SEPALCO Solar plant (45MW), Islasol III Solar plant (40.5MW), Islasol II Solar plant (27.2MW), and Silay Solar plant (20MW) in the Visayas region, 4.3 MW Calumangan diesel plant in Visayas. Furthermore, maximum capacities of Luzon coal plant SLTEC CFTPP units 1 and 2 altered from 120.6 MW to 121 MW and from 135 MW to 122.9 MW, respectively. This resulted in a total WESM registered capacity of 17,214.8MW in March 2016. More solar plants registered in the market this April namely: 7.1 MW Armenia Solar plant, 7.14 MW Subic Solar plant, and 5.88 MW Dalayap Solar plant However, the cessation of membership of Millenium Energy, Inc and AES Philippines Inc. from the WESM lead to decline of the registered capacity of 17,143MW at the end of April 2016.

In spite of the increasing trend in registered capacity, only 9,720MW was offered in the market which accounted for 60 percent of the total registered capacity in November 2015. The capacity offered declined to 9,758MW in December 2015 which accounted to 60 percent of the total registered capacity. As the WESM registered capacity increased in January 2016 billing period, the capacity offered likewise increased at 10,459MW which also accounted for 65 percent of the registered capacity. Yet again, the offered capacity declined in February 2016 and March 2016 to 10,396MW and 10,207MW, respectively. This accounted for 64 percent and 60 percent of the total registered capacity. Meanwhile, about 61 percent of the total WESM registered capacity was offered in the market in the month of April which averages to 10,438MW. Table below summarizes the capacities not offered during the period which includes the outage capacity, capacity not offered, and ancillary services.

Table16. Unavailable Capacities in the Market based on PEMC Report

Month	Outage Capacity	Capacity Not Offered	Ancillary Services
November 2015	2,237MW	2,050MW	1,020MW
% of total Registered Capacity	14%	13%	6%
December 2015	2,220MW	2,166MW	910MW
% of total Registered Capacity	14%	13%	6%
January 2016	2,332 MW	2,035 MW	111 MW
% of total Registered Capacity	15%	13%	1%
February 2016	2,272 MW	1,926 MW	139 MW
% of total Registered Capacity	14%	12%	1%
March 2016	2,243MW	2,593 MW	196 MW
% of total Registered Capacity	15%	13%	1%
April 2016	1,773 MW	3,099 MW	162 MW
% of total Registered Capacity	11%	18%	1%

Higher system-wide outage capacity manifested during the November billing month with 26.3 percent increase from the previous month to 2,237MW. In contrast, the system-wide average outage capacity slightly dropped by 0.8 percent to 2,220MW in December 2015 contributed by the outage capacity of coal plants at an average of 1,199 MW. However, the system-wide average outage capacity increased by 5.1 percent in January 2016 to 2,332MW due to higher occurrences of outages of coal and natural gas plants. Coal plants dominated the system outage capacity, averaging 1,422MW, which exhibited an 18.5 percent increase while natural gas plants showed a substantial increase of 133.2 percent in the average outage capacity of 162MW. In February 2016 billing period, a decrease of 2.5 percent was observed from last month to 2,272 MW due to the decrease in the outage capacity of coal, natural gas and oil-based plants. Nonetheless, the average outage capacity decline by 1.3 percent in March 2016 to 2,243MW influenced by the decrease in

outage capacity of hydro plants, geothermal plants and natural gas plants. In addition, the system-wide average outage capacity during the billing month of April 2016 decline by 21 percent from last month's 2,243 MW to 1,773MW which was driven by the decrease in outage capacity of coal plants and geothermal plants.

The table below shows the plant outages that contributed to the unavailable capacities in Luzon and Visayas during the said period.

Table 17. Major Plant Outages

Month	Luzon			Visayas
November 2015	Sual 2 SLPGC 1 and 2 STLEC 1 and 2 Calaca 2 Masinloc 1 GN Power 1 and 2 Bacman 1 and 2 Makban 3 and 6 Tiwi 2, 3, and 5	Ambuklao 1, 2, and 3 AngatM 4 Binga 3 and 4 Casecnan 1Masiway San Roque 2 Botocan Caliraya 1 and 2	Kalayaan 1, 2, and 3 Sta. Rita 1 San Lorenzo 1 and 2 SPPC 1, 2, and 3 Limay 6 and 7 TMO Unit 1 and 2 Malaya 1 and 2 SPPC 1 and 2	CEDC 1 and 3 KepcoSalcon 1 and 2 PEDC 2 Malitbog 1, 2, and 3 Upper Mahiao 1 and 3 Leyte 2 and 3 PGPP1 Unit 1, 2, and 3 PGPP2 Unit 4 Cebu Diesel 1, 2 and 4 PDPP3 F
December 2015	Calaca 2 GN Power 2 Masinloc 1 SLPGC 1 and 2 Sual 2 Bacman 1, 2, and 3 Masiway	Makban 3, 6, 7, 8 and 9 Tiwi 1, 2, and 3 Angat M4 Caliraya 1 and 2 Kalayaan 3 and 4San roque 2 Ilijan A1, A2, and A3 Ilijan B1, B2, and B3	San Lorenzo 1 Sta. Rita 4 Lafarge 2 Limay 5 and 7 Malaya 1 TMO Unit 1, 2, 3, and 4	CEDC 2 and 3 Nasulo PGPP1 Unit 2 PGPP2 Unit 3 and 4 Upper Mahiao 2 Bohol 2, 3, and 4 PDPP3 D and H URC 1 VMC
January 2016	Calaca 1 and 2 GN Power 1 Masinloc 1 Pagbilao 1 SLPGC 1 and 2 SLTEC 2 Sual 1 and 2 Makban 3, 6, 8 and 9 Tiwi 1 and 3 Angat M 4	Binga 1, 2, and 3 Kalayaan 4 AVION 1 San Lorenzo2 Sta. Rita 1, 2, 3, and 4 Limay 3, 5, and 6 Malaya 1 TMO Unit 1 FFHC		CEDC 1, 2 and 3 KepcoSalcon 2 PEDC 1 Mahanagdong B1 Malitbog 2 and 3 PGPP2 Unit 4 Upper Mahiao 2 and 3 Bohol 4 Cebu Diesel 1 and 2 PDPP3 D
February 2016	ANDA 1 Calaca 1 and 2 GN Power 1 and 2 Masinloc 1 Pagbilao 1 QPPL SLPGC 1 and 2 SLTEC 1 and 2 Bacman 3 Makban 3, 4, 6 and 9Angat M 4	Tiwi 1, 2, 3, and 6 Binga 3 and 4 Botocan Caliraya 1 and 2 Kalayaan 1, 2, 3, and 4 AVION 1 IlijanA1, A2, B1, B2, and B3 Sta. Rita 1 Limay2, 3, and 5 TMO Unit 1		CEDC 1, 2 and 3 PEDC 1 and 2 Mahanagdong B1 Malitbog 3 PGPP2 Unit 4 Upper Mahiao 3 URC 1 VMC San Carlos 2
March 2016	Calaca 1 and 2 GN Power 1 and 2 Masinloc 1 and 2 Pagbilao 1 QPPL SLPGC 1 and 2 SLTEC 1 and 2 Bacman 3 Makban 4, 6 and 9 MGPP 1 Tiwi 1, 2, 3, and 6 Ambuklao 1, 2, and 3	Angat 4 Bakun 1 Kalayaan 2 AVION 1 Ilijan A1, B2, and B3 San Lorenzo 2 Sta. Rita 4 Lafarge 2 Limay 2 and 5 MGTPP TMO Unit 1, 2, and 4		CEDC 1 and 3 PEDC 1 and 2 Mahanagdong A1 andB1 Malitbog 3 PGPP2 Unit 4 Upper Mahiao 1, 2, 3, and 4 Cebu Diesel 6 FFHC HPCO URC
April 2016	Calaca 2 GN Power 2 Pagbilao 1 QPPL SLPGC 2 SLTEC 1 Sual 2 Makban 2, 6 and 9 MGPP 1 Tiwi 1, and 3 Ambuklao 1, 2 and 3	Angat M4 Kalayaan 1, 3 and 4 Magat 1, 2, 3 and 4 San Roque 1 and 3 San Lorenzo 1 and 2 Sta. Rita 4 Lafarge 2 Malaya 1 Limay 5 TMO Unit 1, 2, 3 and 4		CEDC 1 ,2 and 3 PEDC 1 TPC Sangi 1 and 2 Leyte 3 PGPP2 Unit 4 Mahanagdong A1 Upper Mahiao 3 and 4 PDPP3 H

Since demand augmented with a slight increase in supply, the billing month of November 2015 experienced tight supply condition with lower supply margin at 1,347MW. Both supply margins in Luzon and Visayas narrowed by 10.1 percent and 32.3 percent, respectively. The Visayas region experienced insufficient supply condition due to outages of major generating units and load shedding due to localized constraint on Sta. Barbara and Cebu transformers. With this, Visayas had imported power from Luzon by as much as 200MW. Moreover, supply margin augmented in December 2015 by 38.8 percent from last month as the demand decreased and supply unchanged. With lower demand and good supply condition in January 2016, supply margin remained relatively high at an average of 1,973 MW. Similarly, these lead to higher supply margin in Luzon region averaging 1,703MW from 1,553MW last month. However, the supply margin in Visayas narrowed by 14.7 percent to 270MW driven by the tight demand and low supply in the region. During the billing period of February and March 2016, the supply margin narrowed by 7.2 percent and 22.4 percent driven by the continuous growth of demand. Driven by higher rate increase of demand than supply during the month of April 2016, supply margin narrowed by 9.7 percent from 1,421MW of the previous month to 1,283MW.

Due to tight supply and demand condition, the system-wide load-weighted average price (LWAP) triggered an increase by 27.9 percent at PhP3,249/MWh during the billing period of November 2015. In particular, LWAP in Luzon and Visayas region posted at PhP3,158/MWh and PhP3,736/MWh which showed a 29 percent and 24.6 percent increase, respectively. On the other hand, LWAP posted a large decrease by 23.5 percent to Php2,487/MWh due to better supply and demand condition in December 2015. Specifically, the LWAP in Luzon decreased by 27 percent to PhP2,490/MWh while a decrease of 51 percent occur in Visayas which averaged at PhP2,470/MWh. Similarly, average LWAP in January 2016 decreased further at PhP2,046/MWh due to wide supply margin. Luzon and Visayas average spot price both decline to PhP2,000/MWh and PhP2,294/MWh, respectively. During February 2016 billing period, the market prices continued to be relatively low averaging to PhP2,307/MWh. However, the Luzon and Visayas average price stood at PhP2,289/MWh and PhP2,402/MWh which were higher by 14.5 percent and 4.7 percent compared to the previous month. In the March 2016 billing period, the system-wide market prices experienced a 42.9 percent increase from the previous month to PhP3,296/MWh caused by the higher demand as temperature increased and tighter demand condition. In terms of Luzon and Visayas' average price, both manifested an increase from Php2,289/MWh to PhP3,272/MWh and from Php2,402/MWh to PhP3,426/MWh, respectively. Likewise, the market prices slightly increased by 3.9 percent in April billing period to PhP3,423/MWh caused by the tighter supply and demand condition. In terms of Luzon and Visayas' average price, both manifested an increase from Php3,272/MWh to PhP3,385/MWh and from Php3,426/MWh to PhP3,628/MWh.

B. Updates on WESM Governance Activities

The DOE provides oversight in the governance of the WESM through the different committees which undertake rules changes, operational audit, conduct of technical evaluation and studies, investigation of breach of the WESM Rules, and management of dispute resolution process. For the report period, following are highlights of the activities of the various WESM governance committees:

1. Market Surveillance Committee (MSC)

Reviewed and adopted five (5) Market Assessment Reports for September 2015 to January 2016 and the Annual Market Assessment Report submitted by the Market Assessment Group (MAG);

Submitted Requests for Investigation (RFI) for possible non-compliances for the billing month of September 2015 to February 2016:

Frequencies of Possible Non-Compliances with Requests for Investigation

Billing Month	Must-Offer Rule			Real-Time Dispatch Deviation		
	No. of Generating Plants	No. of Trading Participants	No. of Trading Intervals	No. of Generating Plants	No. of Trading Participants	No. of Trading Intervals
September 2015	51	38	37,829	47	38	8,578
October 2015	46	34	35,891	49	39	7,499
November 2015	53	35	37,622	49	40	7,752
December 2015	53	39	37,207	48	40	7,480
January 2016	49	35	36,274	47	37	7,750
February 2016	53	39	38,606	47	38	7,811

Source: PEMC

Reviewed the Monthly Monitoring Reports on Compliances for the period October 2015 to March 2016 with summary as follows:

a. Report on Compliance to the Must Offer Rule of the Luzon and Visayas Generators:

Frequencies of Capacity Gap due to MOR

Billing Month	Luzon		Visayas	
	No. of Intervals	No. of Generating Plants Involved	No. of Intervals	No. of Generating Plants Involved
October 2015	26,581	24	9,310	10
November 2015	27,983	27	9,707	11
December 2015	28,856	28	11,016	11
January 2016	25,059	26	11,215	10
February 2016	27,817	29	10,953	11
March 2016	28,489	28	9,955	12

Source:PEMC

b. Report on the non-compliance with Real-Time Dispatch (RTD) Schedule of the Luzon and Visayas Generators:

Frequencies of RTD Deviation

Billing Month	Luzon		Visayas	
	No. of Intervals	No. of Generating Plants Involved	No. of Intervals	No. of Generating Plants Involved
October 2015	6,846	28	653	11
November 2015	7,283	29	469	12
December 2015	7,100	28	380	11
January 2016	7,498	26	252	12
February 2016	6,874	29	302	10
March 2016	7,721	30	304	12

Source:PEMC

Reviewed the following reports:

- Submission of Schedule of Loading Levels for February 2016 where forty three (43) generator resources were registered but only twenty five (25) generators were monitored and the remaining eighteen (18) generators were still under test and commissioning stage;
- Report on the Over-riding Constraints covering the period September 2015 to February 2016;
- Thirteen (13) ECO Consolidated Investigation Reports, which involved forty three (43) cases for possible non-compliances with the MOR and RTD Schedule covering the December 2013 to September 2014 billing periods. The same was submitted to the PEM Board;
- Six (6) ECO investigation reports covering twelve (12) cases involving four (4) TPs with possible non-compliances with the Must-Offer Rule

and eight (8) cases involving one (1) TP with possible non-compliances with Real-Time Dispatch (RTD) Schedule/Instructions; and
- Nine (9) ECO Investigation Reports involving possible non-compliances with the MOR and RTD Schedule for the April to June 2014 billing period;

Formulated its recommendations to the PEM Board on how to streamline the process of reporting non-compliances after reviewing the Requests for Investigation for Closed and On-going Cases for 2014 and 2015;
Approved and submitted the 2015 Annual Retail Electricity Market Assessment Report covering the period 26 December 2014 to 25 December 2015;
Continued its deliberation of the Market Surveillance, Compliance and Enforcement Market Manual (MSCEMM) and a proposed amendments to certain provisions will be subjected to MSC's review and approval before endorsing to the Rules Change Committee(RCC);
Approved a resolution creating a Subcommittee for the review of market intervention events in 2016;
Tasked to review the Investigation Reports prepared by the PEMC-Enforcement and Compliance Office (ECO) with respect to the following: (a) Compliance by the ECO with the procedures set forth in the Market Surveillance Compliance and Enforcement Market Manual for the conduct of Investigation; and (b) Validity and completeness of the data and documents upon which the factual findings are based. Then commenced its review of the five (5) ECO Investigation Reports covering fourteen (14) cases and discussed its recommendations; and
Deliberated and submitted its comment on the RCC's proposed amendments to the Dispatch Protocol Manual Issue 11.0 regarding the dispatch tolerance level and cogeneration system.

2. Technical Committee (TC)

Finalized and transmitted to the RCC its proposed amendments to the WESM Rules and the Dispatch Protocol Manual Issue 11.0 on the implementation of market intervention, market suspension and restoration;
Finalized its comments to the NGCP's proposed amendments to the following:
a. WESM Rules: Chapter 6 *Intervention and Market Suspension*;
b. System Security and Reliability Guidelines; and
c. WESM Market Manual on Emergency Procedures;
Presented its review on the Technical Report on the Plant Minimum Stable Load Test for Ilijan CCPP submitted by KEPCO Research Institute (KEPRI) to the Energy Regulatory Commission (ERC) as reference for the TC's review;
Agreed to focus on the role of Battery Energy Storage as ancillary services provider based on the ERC Resolution No. 09, Series of 2015 and revised its draft report accordingly;
Finalized and approved its study on the minimum stable load of combined cycle gas turbine (CCGT) plants;
Finalized and approved the public version of the report on the TC's study on the dispatch tolerance limit;
Continued its study on the operation of Reserve Market and the integration of Variable Renewable Energy (VRE) resources and agreed on the objectives and scope of the study. Thus, it was noted to review the central

scheduling protocol and provide additional proposed amendments to include essential details;
Commented on the PEMC's proposed amendments to the WESM Manuals for the implementation of preferential dispatch, FIT-All collection and non-expiration of standing submission in the WESM;
Promulgated the revised TC Internal Rules (Issue 3.0) where it superseded Issue 2.0 which was approved in 2012; and
Proposed amendments to the guidelines governing the constitution of the PEM Board Committee Issue 2.0.

3. Dispute Resolution Administration (DRA)

Held consultation meetings with concerned PEMC units/departments to clarify how situations described in the identified provisions actually yield to a dispute or a case;
Reviewed the proposed amendments to the WESM Rules, Dispute Resolution Market Manual Issue 4 and the Registration, Suspension and De-registration Criteria and Procedures Manual;
Developed programs to improve the following:

a. Current processes and proceduresof the WESM Dispute Resolution;
b. Promotion among Market Participants about WESM Dispute Resolution; and
c. Provide WESM Mediators/Arbitrators opportunities to participate in continuing education programs and events organized by external ADR organizations.

Served as one of the panelists in a seminar jointly organized by the Philippine Institute of Arbitrators and the Hong Kong International Arbitration Centre about the role of Arbitral Tribunal Secretaries;
Discussed the supplementary services aside from those rendered by the arbitrators, namely: stenographers or court reporters, Arbitral Tribunal Secretary, and a secure online repository of documents and agreed to gradually gather background information in preparation for any arbitration hearings/proceedings; and
Discussed the draft outline for the Guidelines for the WESM-accredited ADR Support Service Center (ASSC) which intends to improve the ASSC with clear, practical and methodical instructions for providing administrative support to the Mediator and/or the Arbitral Tribunal during mediation and arbitration.

4. Rules Change Committee (RCC)

The RCC continued its deliberations on the proposed amendments to the WESM Rules and Market Manuals. Most of the amendments are in compliance to various audit findings which calls for the alignment of the WESM Rules and Market Manuals to policy and regulatory issuances. Summarized below are the proposals approved by the Committee:

Proposal of the draft Constrained Dispatch Manual and agreed to finalized the proposed manual;
Proposed Amendments to Chapter 6 of the WESM Rules on Intervention and Market Suspension taking into consideration the comments submitted by PEMC and MERALCO on the following key topics:

a. Aligning the WESM Rules with the *System Operator's* (SO) current practice in declaring *Market Intervention*, as well as the contents and timeline of the SO's submission of a Market Intervention Report;
b. Harmonizing the SO's timeline of submitting significant incident reports to the DOE, ERC, PEM Board and the *Market Operator* (MO) with what is specified in the *Philippine Grid Code*;
c. Specifying the contents of the SO's notification to the DOE, ERC, MO and Grid Management Committee about the occurrence of an emergency condition; and
d. Replacing the SO with the MO as the one responsible for notifying Market Participants about the existence of an emergency.

Proposed Amendments to the WESM Manual on System Security and Reliability, taking into consideration the comments submitted by PEMC, the Technical Committee, MERALCO, and North Luzon Renewables Corporation;
Proposed Amendments to the WESM Manual on Emergency Procedures, taking into consideration the comments submitted by PEMC, the Technical Committee, MERALCO and North Luzon Renewables Corporation;
Proposed amendments to the Dispatch Protocol Manual to include the definition of co-generation facilities' maximum available capacity as net of their load;
Discussed PIPPA's position on the Joint MO-SO Study on Dispatch Tolerance Standards and agreed to:

a. Propose amendments to the Dispatch Protocol Manual favoring the (+1.5% – -3% of the RTD) range and the PIPPA's proposal to allow (+/- 1MW) deviation for small generators; and
b. Consider changes in the forecast errors in line with the changes to be proposed to the dispatch tolerance levels.

Proposals of DUs' (INEC, MECO and ANTECO)about Metering Standards and Procedures Manual regarding Site Specific Loss Adjustment which recommends adjusting site-specific losses in terms of cost of energy loss rather than in terms of metered quantity;
Proposed amendments to the WESM Manual on Metering Standards and Procedures regarding Metering Services Provider (MSP) Performance Measurement for posting in the market website for comments; and
Proposed amendments to the Dispatch Protocol Manual Issue 11 which included the consolidated proposals from PEMC and the Technical Committee (TC) and considered the comments received from the NGCP, MERALCO, Northern Luzon Renewable Energy Corp. and VIVANT during the deliberations;

In addition, below are the proposals under the RCC review:

Market Operator – System Operator (MO-SO) Study on Dispatch Tolerance with the following MO's recommendations:

a. Over-Dispatch Tolerance max [1.5% RTD, 1] MW;
b. Under-Dispatch Tolerance max [3% RTD, 1] MW; and
c. Monitoring of intra-hour deviation.

Proposed Amendment to the MRU-MSU Manual on the Responsibility of Declaring MRU/MSU Plants;
Proposed Amendment to the WESM Rules on Generation Company Reserve Offers / Battery Energy Storage System;
Finalized proposal of NGCP to the WESM Rules on Market Intervention regarding the proposed flow charts of NGCP to clarify the implementation and other corrective actions during a significant event in the grid; and
Finalized proposal of NGCP to the WESM Manual on System Security and Reliability Guidelines specifically the collation of NGCP's responsibilities;

Meanwhile, the RCC have continued deliberations on the following aspects of the WESM Rules and Market Manuals;

Deliberated on the Proposed Amendments to the WESM Rules for the Implementation of Enhancements to WESM Design and Operations taking into consideration the comments submitted by the DOE, NGCP, Aboitiz Power Corporation, AES Philippines, SN Aboitiz Power and the Technical Committee;
Approval of Additional Clerical Corrections to the WESM Rules emanating from the WESM Rules Write shop;
Approved the publication of Proposed Amendments to the WESM Manuals for the Implementation of Preferential Dispatch, FIT-All Collection and Non-Expiration of Standing Submissions in the WESM to solicit comments from interested parties; and
Approved the publication of Proposed Amendments to the WESM Manual on Management of Net Settlement Surplus.

5. PEM Audit Committee (PAC)

Intelligent Energy Systems submitted the final draft of the 2nd Metering Arrangements Review on 20 November 2015;
Discussed the proposed rules changes to the WESM Rules, Market Manuals and PEM Audit Market Manual Issue 2.0 which are geared towards updating the contents in harmony with the Manual Governing the Constitution of PEM Committees and other related manuals;
Conducted the 6th Independent Operational Audit of the Systems and Procedures on Market Operations and the 3rd Review of Metering Installations and Arrangements under one contract and by one external auditor subject to the approval of the PEM Board
Deliberated the proposal for the conduct of a joint Market Operator and Metering Review Audit and passed a resolution approving the same;
Finalized the draft Terms of Reference for the joint MO and Metering Audit or the "Market Audit" based on the previous scopes of work of the market operations audit and metering review;
Submitted the Final Draft Report and the Summary of Changes to the previous draft of the audit report of the 2nd Metering Arrangements Review;
Submitted Annual Report to the PEM Board covering the activities for the period January to December 2015;
Reviewed the internal process in the selection and engagement of External Auditor then proposed guidelines for the implementation of the Market Audit which will be used in the 6th Market Operations Audit and 3rd Metering Arrangements Review;

Reviewed and promulgated the revised Internal Rules (Issue 3.0) which included the following provisions:

a. Bases for the calling out a special meeting;
b. Release of decisions thru a resolution;
c. Inputs by the Secretariat during discussion;
d. Internal guidelines for the procurement of audit services for every project;
e. Implementation of audit activities; and
f. Evaluation of External Auditor's performance

Completed the 2nd Metering Arrangements Review and facilitated a discussion about the following:

a. MTN and Meter Location with SSLA;
b. International Practice on Backup Meters;
c. Opportunities and International Experiences of the Smart Grid; and
d. International Practice in the Ownership and Accountability of Meters.

Discussed the proposed Market Audit and reviewed the following:
a. description of the scope of work required;
b. proposed terms of reference including the methodology; and
c. the short list of experts or expert team.

Discussed its possible role in the engagement of an External Audit for NMMS test and certification; and
Agreed to undertake a historical review of PEMC's compliance with its action plan timeframe.

C. Reserve Market Implementation

In preparation for the operations of the Reserve Market, the DOE promulgated DOE Department Circular No. DC2015-11-0018, entitled "Declaring the Commercial Operation of the Central Scheduling and Dispatch of Energy and Contracted Reserves in the Wholesale Electricity Spot Market and further Amendments to its Protocol in Preparation for the Eventual Commercial Operation of the WESM Reserve Market", last 12 November 2015. With the said circular, PEMC started the implementation of Central Scheduling through Trial Operation Program (TOP) but its commercial operation was deferred taking into consideration the recommendation of the stakeholder regarding the supply-demand outlook during the summer months of 2015. As the electric power supply condition became stable, PEMC resumed the TOP on 26 July 2015 for the implementation of the Central Scheduling in the WESM.

On 17 September 2015, PEMC confirmed that the application of the Central Scheduling in the Luzon Grid was fully met while facilities and familiarization of some Visayas participants have yet to be completed. In addition, PEMC proposed an amendment to the said Protocol for Central Scheduling to include an additional provision to address the dispatch scheduling encountered during the TOP. Consequently, the DOE considered the PEMC's readiness assessment including the proposed amendments to the Protocol since it was consistent with the objectives of the WESM and the implementation of the WESM Reserve Market. On 22 December 2015, the Central Scheduling and Dispatch of Energy and Contracted Reserves in the WESM was implemented.

D. Retail Competition and Open Access (RCOA)

As of April 2016, out of one thousand one hundred seventy two (1,172) prospective RCOA participants, the Central Registration Body (CRB) registered a total of 446 participants while twenty eight (28) applications for registration are in process. From the two hundred seventy five (275) registered members in June 2013, the number of participants increased by thirty eight percent (38%) in April 2016.

Table18. Summary of RCOA Registration

Participants	Prospective Based on ERC Data	Registered as of June 2013	Registered as of March 2016	Percent Change	Applicants as of Feb 2016
Retail Electricity Supplier (RES)	18	15	16	6.3%	4
Local Retail Electricity Supplier (LRES)	23	3	12	75.0%	2
Retail Metering Service Provider (RMSP)	39	18	24	25.0%	5
Contestable Customer (CC)	1065	239	385	38.4%	13
Supplier of Last Resort (SOLR)	27	0	6	100.0%	3
Total	**1,172**	**275**	**446**	**38.3%**	**27**

Source: PEMC

Out of 1,065 ERC-Certified CCs, 935 or 88% are located in Luzon while 130 CCs or 12% are in the Visayas. In terms of demand, CCs in Luzon have and aggregated demand of 2,639 MW and 419MW in the Visayas to a total of 3,058 MW. Demand of CCs in the MERALCO franchise was at 1,178 followed by CCs that are directly connected to NGCP with 74 MW. Also in the Visayas, customers directly connected to NGCP has 27 MW demand while 9.5 MW from Visayas Electric Company (VECO).

Table 19. Number, Demand and Energy Consumption of Contestable Customers

Grid	Contestable Customers				Power Demand				Actual Consumption of CCs Registered in the CRB (November 2015 to April 2016)	
	Indicative Number	% Share	No. of CCs Registered with the CRB	% Share	Indicative MW	% share	Demand of CCs Registered with the CRB (MW)	% share	MWh	% share
LUZON	935	87.8%	381	99.0%	2,637	86.3%	1,310	97.3%	4,062,396	95.4%
MERALCO	756	71.0%	365	94.3%	1,987	65.0%	1,178	87.5%	3,774,360	88.7%
Other Private DUs	41	3.8%	6	1.6%	74	2.4%	26	1.9%	75,160	1.8%
Electric Cooperatives	50	4.7%	2	0.5%	69	2.2%	18	1.3%	2,943	0.1%
NGCP	42	3.9%	9	2.1%	405	13.3%	74	5.5%	174,554	4.1%
Ecozones	46	4.3%	2	0.5%	103	3.4%	13	1.0%	35,378.27	0.8%
VISAYAS	130	12.2%	4	1.0%	419	13.7%	37	2.7%	193,504	4.5%
VECO	59	5.5%	2	0.5%	132	4.3%	10	0.7%	32,883	0.8%
Other PDUs	16	1.5%	-		34	1.1%				
Electric Cooperatives	28	2.6%	-		64	2.1%				
NGCP	15	1.4%	2	0.5%	152	5.0%	27	2.0%	160,622	3.8%
Ecozones	12	1.13%	-		37	1.2%				
TOTAL	1,065	100.0%	385	100.0%	3,058	100.0%	1,346	100.0%	4,255,901	100.0%

Source: ERC and PEMC

Three hundred eighty eight (388) or 38% of the CCs are already sourcing their supply through a RES and registered with the CRB. These 388 CCs has a total energy consumption of 4,255 GWh for the period November 2015 to April 2016, of which, 95.5 percent or 4,062 GWh was consumed in Luzon while the remaining 4.5 percent or 194 GWh was used by CCs in the Visayas.

The Waterfront Hotel and Casino (WACH) was registered as a RES supplying its lone affiliate CC, Waterfront Cebu City Hotel (WCCH). The RES license issued to WACH is an interim license just to facilitate the supply of electricity by WACH to WCCH, following its acquisition of the energy strips offered by PSALM from its IPP contract with the Unified Leyte Geothermal Power Plants. As an interim RES, WACH was also allowed by ERC to enter into a Distribution Wheeling Service Agreement with the Visayas Electric Company (VECO) as the distribution utility for WCCH. The ERC has directed WACH to file a RES application within sixty (60) days from the effectivity of 2015 RES Rules to be promulgated by the ERC.

Meanhwile, GNPower Mariveles RES was delisted by the CRB in view of the expiration of its RES license. For the life of its license, GNPower was not able to enter into contract with any CC.

On 01 October 2016, Ilocos Norte Electric Cooperative (INEC) was approved as the latest Supplier of Last Resort (SOLR) increasing the number to 6 while Local RES, and RMSPs were unchanged with twelve (12) and twenty three (23) registered with the CRB respectively.

In terms of customer switching, a total of 36 CCs already switched their suppliers, of which 12 were confirmed during the report period. Majority of the switch came from San Miguel Electric Company – RES (SMELC) with customers switching to Global Energy Solutions (GESC) and Ecozone Power management Inc., (EPMI). Five (5) CCs from MERALCO Local RES (MPower) also switched to three (3) different RES's. New contracts entered into by the switching CCs ranged from fourteen (14) months to seven (7) years.

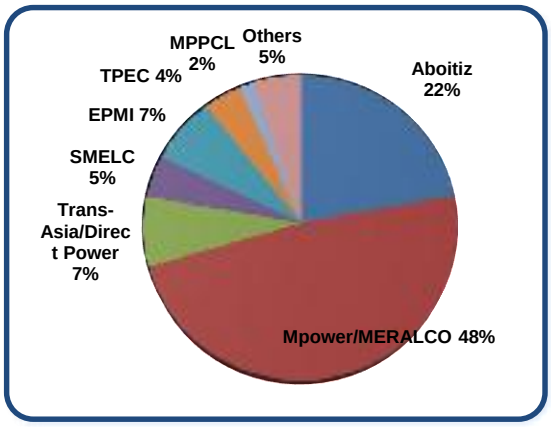
Table 20. Customer Switching

Customer	New Supplier	Incumbent Supplier	Date of Switch Confirmation	Contract Start	Contract End
Philippine Resins Industries, Inc.	AESI	TPEC	22-Jan-16	26-Jan-16	Open
EMS Land Services, Inc.	SMELC	EPMI	1-Feb-16	12-Feb-16	26-Feb-16
TDK Philippines Corporation	SMELC	EPMI	1-Feb-16	12-Feb-16	26-Feb-16
Toshiba Information Equipment (Philippines), Inc.	SMELC	EPMI	1-Feb-16	12-Feb-16	26-Feb-16
Toshiba Information Equipment (Philippines), Inc.	SMELC	EPMI	1-Feb-16	12-Feb-16	26-Feb-16
Universal Robina	MPower	AESI	12-Feb-16	17-Feb-16	26-Feb-16
Swedish Match-Philippines,Inc.	MPower	EPMI	12-Feb-16	17-Feb-16	26-Feb-16
International Container Terminal Services, Inc.	MPower	AESI	12-Feb-16	17-Feb-16	26-Feb-16
Amkor Technology Philippines, Inc.	MPower	AEI	12-Feb-16	17-Feb-16	26-Feb-16
Amkor Technology Philippines, Inc.	MPower	AEI	12-Feb-16	17-Feb-16	26-Feb-16
RFM Corporation	FGES	EPMI	12-Feb-16	15-Feb-16	26-Feb-16
Kraft Foods Philippines, Inc.	TAO-EDC	AESI	1-Feb-16	12-Feb-16	26-Feb-16

Source: ERC and PEMC

In terms of market share, MPower still has the highest number of customers with two hundred nineteen (219) CCs with energy sales of about 3,389 GWh or equivalent to fifty three percent (53%) of the total sales of all RES in Luzon and Visayas. AESI placed second with fifty one (51) CCs having shared in energy sales twelve percent (12%) or 511 GWh. AEI has five percent (5%) share compared to the previous nine percent (9%) due to switching of two (2) accounts Amkor Technologies to MPower, which is among the biggest contestable customers.

Figure 8 - RES/LRES Market Share



E. Market Share Monitoring

The ERC adopted and promulgated Resolution No. 26, Series of 2005 entitled "A Resolution Adopting the Guidelines for the Determination of the Installed Generating Capacity in a Grid and the National Installed Generating Capacity and Enforcement of the Limits on Concentration of Ownership, Operation or Control Installed Generating Capacity under Section 45 of Republic Act No. 9136" (Market Share Guidelines). The Guidelines issued under the said Resolution were based primarily on the provisions of Section 4 of Rule 11 of the Implementing Rules and Regulations (IRR) of R.A 9136 which provides for control as the basis for crediting the installed generating capacity of a Generation Facility to a Generation Company and its affiliate or related group. The ERC issues a Resolution every 15th day of March setting the installed generating capacity per grid and for the national grid and the market share limitation per grid and for the national grid based on the maximum capacity of the power plants submitted by the generation companies and other entities required to submit the Generation Company Management Reports.

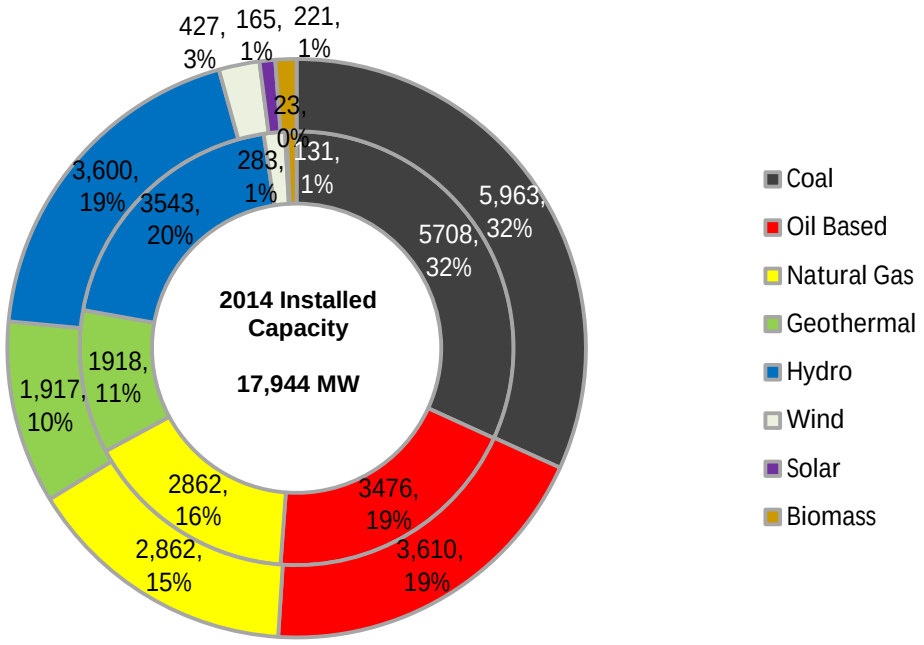
As of March 2016, the ERC identifies the need to further study the existing Guidelines to address issues on the appropriate determination of the market share of a person or entity covered by the market share limitations' for end the national grid in accordance with *Section 45 (a) of EPIRA*. In this regard, the ERC has decided to hold in abeyance the issuance of the annual resolution setting the installed generating capacity per grid and for the national grid and the market share limitations per grid and for the national grid until 30 June 2016.

V. POWER SUPPLY SECURITY AND RELIABILITY

A. Installed And Dependable Capacity

The Philippines' total installed generating capacity continued to grow by 4.6% from 17,944 MW in 2014 to 18,765 MW in 2015 equivalent to 751 MW increase. Coal-fired power plants constitute the largest share in the installed and dependable capacity in 2015 at 32% and 34% respectively. Among renewable energy, hydro sources' share remained the highest at 19% majority of which comes from the Mindanao Grid. With the continued support of the DOE and other energy agencies and stakeholders for clean energy, Variable Renewable Energy (VRE)-based sources, which include wind and solar grew remarkably by 50.9% (144 MW increase) and 616.0% (142 MW increase) respectively from 2014 to 2015 despite having the smallest share in the total capacity as shown in Figure 9.

Figure 9. 2015 vs. 2014 Installed Capacity, Philippines



2015 Installed Capacity = 18,765 MW

The percent share on a per Grid basis remained unchanged over the years. In 2015, almost 75% of the total capacities was in Luzon, while Visayas and Mindanao, with at par shares, comprised the remaining 25%. The commercial operation of power plants from different technologies provided the needed additional capacities for the Luzon Grid in 2015.

As shown in Table 21, new power plants were commissioned in 2015 from different technologies such as the 135 MW South Luzon Thermal Energy Corporation (SLTEC) Coal-Fired Power Plant Unit 1 in Batangas, 13.2 MW Sabangan Hydroelectric Power Plant (HEPP) in Mt. Province and 6 MW Sinoma Waste Heat Recovery System in Rizal. In addition, the 100 MW Gas Turbine Power Plant in Navotas was rehabilitated by Millennium Energy Inc. (MEI) and is currently embedded under the MERALCO franchise area.

On the second half of 2015, more RE-based plants from wind, biomass and solar went online totaling to 265 MW such as the 54 MW Alternergy Wind Farm in Pililia, Rizal, 20 MW Isabela Biomass Energy Corporation (IBEC) Bagasse-Fired Power Plant, and 13 MW

Bataan 2020 Rice Husk-Fired Power Plant. There were also solar photovoltaic (PV) farms which have been operational such as the 10 MW Phase 1 and 13.1 MW Phase 2 of Raslag Corporation Solar Farm in Pampanga, 41.3 MW Majestic Solar Rooftop in Cavite, 4 MW Burgos Solar Farm in Ilocos Norte, and the 1.5 MW rooftop-installed solar panels of Solar Philippines which is located at SM North EDSA.

Table 21. 2015 vs. 2014 Installed and Dependable Capacity, Luzon

FUEL TYPE	LUZON					
	Installed Capacity			Dependable Capacity		
	2015	2014	Difference	2015	2014	Difference
Coal	4,812	4,671	141	4,512	4,391	121
Oil Based	2,133	2,033	100	1,585	1,507	78
Natural Gas	2,861	2,861	0	2,759	2,759	0
Geothermal	844	844	0	691	692	(1)
Hydro	2,528	2,471	57	2,224	2,131	93
Wind	337	283	54	293	103	190
Biomass	83	50	33	60	39	21
Solar	70	0	70	54	**0**	54
TOTAL	**13,668**	**13,213**	**455**	**12,179**	**11,622**	**557**

Source: DOE List of Existing Power Plants, December 2015

On the other hand, Visayas' net increase in capacity was the smallest compared to the two Grids. Based on Table 22, newly operational RE plants coming from biomass, wind, and solar provided additional 200 MW in the installed capacity and 170 MW in the dependable capacity. However, due to the decommissioning of Salcon's Cebu Thermal Power Plant (TPP), the total installed and dependable capacity of coal declined in 2015. The units of Cebu Land-Based Gas Turbine of SPC Island Power Corporation is currently under preservation and have not provided power to the grid during the past years which contributed to the 80 MW drop in dependable capacity coming from oil-based sources in 2015. On the same manner, the non-operation of DESCO Inc.'s Natural Gas Power Plant due to non-availability of fuel and the adjustments in capacities of Unified Leyte Geothermal Power Plants also decreased the dependable capacity of the Visayas Grid.

Table 22. 2015 vs. 2014 Installed and Dependable Capacity, Visayas

FUEL TYPE	VISAYAS					
	Installed Capacity			Dependable Capacity		
	2015	2014	Difference	2015	2014	Difference
Coal	769	806	(37)	761	777	(16)
Oil Based	670	670	0	425	505	(80)
Natural Gas	1	1	0	0	1	(1)
Geothermal	965	965	0	813	817	(4)
Hydro	11	11	0	11	11	0
Wind	90	0	90	86	0	86
Biomass	101	44	57	77	32	45
Solar	75	22	53	56	17	39
TOTAL	**2,683**	**2,520**	**163**	**2,228**	**2,160**	**68**

Source: DOE List of Existing Power Plants, December 2015

As shown in Table 23, in 2015, the capacities in Mindanao inched up significantly compared to previous years after the entry of new power plants coming from base-load coal (150 MW Therma South Coal Unit 1), oil (20.9 MW Peak Power Soccsargen, 5.9 MW Peak Power ASELCO, and 7.8 MW King Energy - Maramag) and solar (12.5 MW Kirahon Solar Farm and 6.2 MW Centralla Solar Farm). On the other hand, the dependable capacity of hydro declined by 3 MW due to deratings.

Table 23. 2015 vs. 2014 Installed and Dependable Capacity, Mindanao

FUEL TYPE	MINDANAO					
	Installed Capacity			Dependable Capacity		
	2015	2014	Difference	2015	2014	Difference
Coal	382	232	150	340	210	130
Oil Based	807	773	34	724	693	31
Natural Gas	0	0	0	0	0	0
Geothermal	108	108	0	98	98	0
Hydro	1,061	1,061	0	837	840	(3)
Wind	0	0	0	0	0	0
Biomass	36	36	0	10	10	0
Solar	20	1	19	15	0	15
TOTAL	**2,414**	**2,211**	**203**	**2,025**	**1,851**	**174**

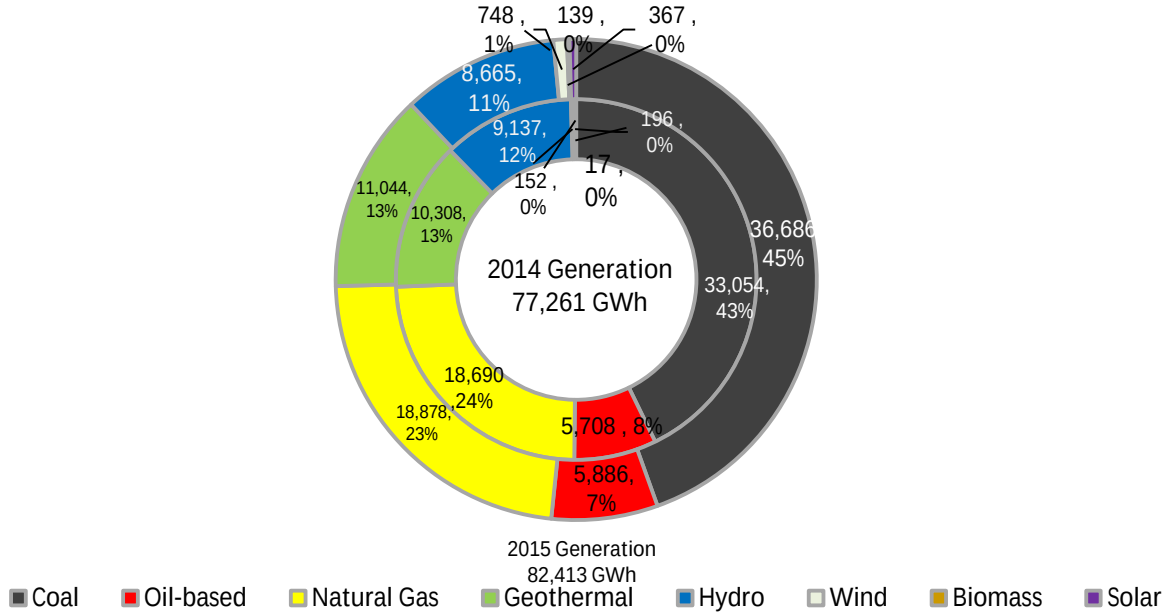
Source: DOE List of Existing Power Plants, December 2015

B. Power Generation

The power generation of the country increased by 6.7% or 5,152 GWh in 2015 due to the significant increase in coal-fired power generation at 3,632 MW. This covers the generation of grid-connected plants from the three main grids as well as embedded and off-grid generations as shown in Figure 10.

Data are based on the submitted Monthly Operations Report (MOR) from the generation facilities operators. Almost seventy-five percent of the country's power generation in 2015 came from fossil-based power plants which include coal, oil-based, and natural gas. Meanwhile, renewable energy from geothermal and hydro sources remained the major source of power generation for the Visayas and Mindanao grids.

Figure 10. 2015 and 2014 Comparative Power Generation, Philippines



Source: DOE Power Statistics 2015

Luzon grid recorded an increased generation of 5.9 % in 2015. Based on Table 24, Coal generation still dominated the generation mix in the grid at 49.4% or an increment of 2,333 GWh due to the operation of new coal-fired power plants. Oil-based generation in Luzon fell significantly by 21.2% due to less utilization of oil-based plants and giving priority to RE-based plants as must-dispatch. RE generation from wind, biomass, and solar remained aggressive by reaching more than a hundred percent increase in power generation due to the upsurge of RE projects.

Table 24. 2015 and 2014 Comparative Gross Generation, Luzon

LUZON GRID						
PLANT TYPE	2015		2014		Difference	
	GWh	%Share	GWh	%Share	GWh	% Growth Rate
Coal	29,680	49.4	27,346	47.0	2,333	8.5
Oil-based	1,845	3.1	2,342	2.9	(498)	(21.2)
Natural Gas	18,878	31.4	18,686	34.3	192	1.0
Geothermal	4,096	6.8	3,817	6.2	279	7.3
Hydro	4,769	7.9	4,357	9.4	412	9.5
Wind	592	1.0	152	0.1	440	289.2
Biomass	187	0.3	65	0.1	122	186.8
Solar	66	0.1	0	0.0	66	-
Total Generation	**60,113**	**100.0**	**56,766**	**100.0**	**3,346**	**5.9**

Source: DOE Power Statistics 2015

Despite having the smallest capacity addition among the three Grids and decline in output of other plant types in 2015, power generation in the Visayas still managed to grow by 10.5% driven by solar, wind, biomass, and coal power generation as shown in Table 25.

Table 25. 2015 and 2014 Comparative Gross Generation, Visayas

VISAYAS GRID						
PLANT TYPE	2015		2014		Difference	
	GWh	%Share	GWh	%Share	GWh	% Growth Rate
Coal	4,968	40.8	4,449	40.4	519	11.7
Oil-based	672	5.5	765	7.0	(94)	(12.2)
Natural Gas	0	0.0	4	0.0	(4)	(100.0)
Geothermal	6,105	50.2	5,627	51.1	478	(8.5)
Hydro	38	0.3	35	0.3	3	(8.2)
Wind	157	1.3	0	0.0	157	-
Biomass	159	1.3	117	1.1	42	36.3
Solar	71	0.6	15	0.1	56	369.1
Total Generation	**12,170**	**100.0**	**11,014**	**100.0**	**1,157**	**10.5**

Source: DOE Power Statistics 2015

The effect of the El Niño phenomenon which started in the last quarter of 2015 was mostly pronounced in Mindanao that caused hydro generation to fall by 887 MWh or 18.7% as shown in Table 26. This caused rotating blackouts in distribution utilities which are dependent on the Agus and Pulangi Hydro power plants of the National Power Corporation – Power Sector Assets and Liabilities Management Corporation (NPC-PSALM) for their power supply. However, this decline was neutralized by the increase in generation output from other new sources such as large coal and oil-based power plants.

Table 26. 2015 and 2014 Comparative Gross Generation, Mindanao

MINDANAO GRID						
PLANT TYPE	2015		2014		Difference	
	GWh	%Share	GWh	%Share	GWh	% Growth Rate
Coal	2,038	20.1	1,258	13.3	780	62.0
Oil-based	3,369	33.3	2,599	27.4	770	29.6
Geothermal	842	8.3	864	9.1	(22)	(2.5)
Hydro	3,858	38.1	4,745	50.1	(887)	(18.7)
Biomass	21.4	0.2	13.9	0.2	7.5	54.0
Solar	1.55	0.0	1.48	0.0	0.07	4.8
Total Generation	**10,130**	**100.0**	**9,481**	**100.0**	**649**	**7.6**

C. System Peak Demand

The system peak demand for the grids increased significantly as shown in Table 27. For Luzon grid in 2015, the peak demand was recorded at 8,928 MW which occurred on 21 May 2015. This was 2.4 % or 211 MW higher than the recorded demand of 8,717 MW which happened in the same month last year. This was attributed to the high electricity consumption due to high temperature and increased utilization of air conditioning and other cooling equipment of the residential and commercial sector especially during summer period.

System peak demand continued to increase in 2015 especially in the Visayas with 8.1% growth rate. Its highest recorded coincident peak demand occurred on 18 November 2015 at 1,768 MW. From Table 28, the highest demand for Visayas came from Cebu sub-grid with 48.1 percent share followed by Panay and Negros both with 17.5 percent share. The remaining 17 percent came from the Leyte-Samar and Bohol sub-grids with 13 percent and 4 percent respectively.

In Mindanao, the recorded highest demand, including embedded loads, was at 1,517 MW which occurred on 12 November 2015. This was higher by 3.3% from 1,469 MW in 2014. Mindanao's peak demand usually occurs during the latter part of the year where hydro capacity and supply is high.

Table 27. Comparison of 2015 and 2014 Peak Demand, per Grid

GRID	Peak Demand (MW)				Deviation	
	2015	Month	2014	Month	MW	%
LUZON	8,928	May	8,717	May	211	2.4%
VISAYAS	1,768	Nov	1,636	May	132	8.1%
MINDANAO	1,517	Nov	1,469	Nov	48	3.3%

Source: DOE Power Statistics 2015

Table 28. Breakdown of the 2015 highest demand of Visayas at 1,768 MW

Visayas Sub-grid	2015 Peak Demand Breakdown (MW)	% Share
Cebu	850	48.1
Negros	309	17.5
Panay	309	17.5
Leyte – Samar	230	13.0
Bohol	70	4.0
Total Visayas Demand	**1,768**	**100.0**

Source: DOE Power Statistics 2015

D. Electricity Sales

Electricity consumption remarkably grew by 6.7% in 2014-2015 compared to the 2.7% growth level in 2013-2014 as shown in Table 29. Power consumption in the Philippines remained driven by the residential and industrial sectors comprising more than 50% combined shares. A notable increase in residential consumption was observed for Visayas and Mindanao attributed to the increase in connectivity of households at the distribution

level. The continued line restoration, reconnection, and rehabilitation of natural disaster affected areas in the Visayas revived the electricity consumption at the household level. On the other hand, the rise in residential consumption in Mindanao was due to the reduced rotating blackouts in 2015 and improved power supply situation brought by new capacities.

Despite having the lowest share in the total consumption, the "Others" sector which include public buildings, street lights, irrigation, energy recovered, and others not elsewhere classified remained aggressive by having the highest growth rate from 2014 to 2015 at 12.6% uplifted by the growth in the Visayas at 34.2%. This was boosted by the increase in government spending at 9.4% and the accelerated performance of public construction which grew by 20.6% in 2015[2].

The growth rate of own-use consumption of power plants and distribution utilities remained sluggish for Mindanao compared to the two Grids in 2015. However, own-use consumption is expected to increase in the coming years considering the entry of large generating units which started in 2015 and other additional capacities coming in the pipeline.

On the other hand, the net minimal increase in the overall systems loss of 26.3 MW resulted from the 296 MW reduction in systems loss for Luzon which was offset by the 322 MW increase in Visayas and Mindanao.

Table 29. 2015 and 2014 Sectoral Electricity Sales and Consumption

Sector	PHILIPPINES					
	2015		2014		Difference	
	GWh	% Share	GWh	% Share	GWh	% Growth Rate
Residential	22,747	27.6	**20,969**	27.1	1,778.18	8.5
Commercial	20,085	24.4	**18,761**	24.3	1,324	7.1
Industrial	22,514	27.3	**21,429**	27.7	1,085.21	5.2
Others	2,462	3.0	**2,186**	2.8	275.57	12.6
Total Sales	**67,807**	**82.3**	**63,345**	**82.0**	**4,462.96**	**7.1**
Own-Use	7,124	8.6	**6,461**	8.3	663	10.3
System Loss	7,481	9.1	**7,455**	9.7	26.25	0.4
Total Consumption	**82,413**	**100.0**	**77,261**	**100.0**	**5,152**	**6.7**

Source: Department of Energy

The comparative sectoral electricity sales and consumption by the three grids for 2015 and 2014 was presented in Table 30. The Luzon grid grew by 6.3% or 3,611 MWh while Visayas, with the highest growth among the three grids, grew by 8.7% at 892 MWh. Mindanao continued to grow by 6.9% or 649 MWh in 2015.

Table 30. 2015 and 2014 Comparative Sectoral Electricity Sales and Consumption, by Grid

Luzon	2015 (MWh)	2014 (MWh)	Difference (MWh)	% Growth Rate
Residential	16,528	15,304	1,224	8.0
Commercial	17,272	16,103	1,170	7.3
Industrial	15,876	14,939	937	6.3
Others	913	895	19	2.1

[2] NEDA, *Statement of Secretary Balisacan on the 2015 Fourth Quarter and Full-Year Performance of the Philippine Economy published at the NEDA website*.

Luzon	2015 (MWh)	2014 (MWh)	Difference (MWh)	% Growth Rate
Total Sales	**50,589**	**47.241**	**3,349**	**7.1**
Own-Use	5,598	5,040	558	11.1
System Loss	4,912	5,208	(296)	(5.7)
Total Consumption	***61,099***	***57,489***	***3,611***	***6.3***
Visayas	**2015 (MWh)**	**2014 (MWh)**	**Difference (MWh)**	**% Growth Rate**
Residential	3,068	2,770	298	10.8
Commercial	1,418	1,302	117	9.0
Industrial	3,268	3,214	54	1.7
Others	1,011	753	257	34.2
Total Sales	***8,765***	***8,039***	***726***	***9.0***
Own-Use	1,131	1,049	82	7.8
System Loss	1,288	1,204	84	7.0
Total Consumption	***11,184***	***10,292***	***892***	***8.7***
Mindanao	**2015 (MWh)**	**2014 (MWh)**	**Difference (MWh)**	**% Growth Rate**
Residential	3,151	2,895	257	8.9
Commercial	1,394	1,357	37	2.8
Industrial	3,370	3,275	94	2.9
Others	538	538	(0)	(0.1)
Total Sales	***8,453***	***8,065***	***388***	***4.8***
Own-Use	395	372	24	6.3
System Loss	1,281	1,044	238	22.8
Total Consumption	***10,130***	***9,481***	***649***	***6.9***

**Includes Off-Grid Sales*
Source: DOE Power Statistics 2015

Industrial Sector

The industrial sector's growth observed in 2015 at 5.1% was lower than the residential and commercial sector which was attributed to its increased exposure and vulnerability to the dynamics of domestic demand and external economic uncertainties. Electricity consumption in Visayas and Mindanao improved slowly compared to the boosting 6.3% growth observed for Luzon.

Among others, the manufacturing sub-sector bolstered the growth of the industry level with the upsurge of demand for tobacco, transport equipment, non-metallic products, and construction-related manufactured goods. However, the onset of El Niño adversely hit the food manufacturing subsector. The sluggish export performance brought by domestic uncertainties and global economic slowdown of importing

countries like China led to the decline in demand for metals (iron and steel), petroleum and export-oriented products among others.[3]

Residential Sector

The countrywide electricity consumption of residential customers continued to expand posting a remarkable turnaround growth of 8.5% in 2015 from 1.7% growth rate from 2013-2014.

This significant growth in the residential electricity sales can be partly attributed to base effects, as year–ago levels reflected lower-than-normal consumption among the residential customers specifically in the Visayas Grid due to the huge numbers of destroyed and damaged residential houses after the onslaught of Bohol Earthquake and typhoon Yolanda in the southern areas of the Visayas in the latter part of 2013.

The increase in electricity sales of residential customers can also be traced to the increased utilization of cooling system due to higher temperatures caused by El Niño. Moreover, the growth in electricity sales was also driven by robust household utilization of electronic appliances for food preparation and recreation. At the same time, the favorable business, positive consumer sentiments provided further boost to the residential electricity sales in the country, supported by stable inflation and stable stream of overseas Filipinos' (OFs) remittances.

Commercial Sector

As the services sector continues to fuel the country's economic growth, the commercial sector's electricity consumption reaffirmed its growth level in 2015 at 7.1%. Contrary to manufactured goods, service exports remained strong primarily due to the BPO subsector's firm performance. Similar to the previous years, commercial sector's power consumption was strengthened by the emergence of new businesses and rising employment led by the active performance of the real estate activities, renting and business activities engaged in transport, storage and communication, trade and repair of motor vehicles, personal and household goods, and the recovery of the trading activities towards the end of the year. Further, the rising demand for services such as laundry, medical, health and education-related services, hotels, restaurants, spas and beauty parlors contributed to the growth of electricity sales in the commercial sector.

As expected in 2015, Visayas grid investments rebounded due to the opening of new businesses, commercial establishments, and other infrastructure expansions. Likewise, the potential of Mindanao for both the industrial and commercial sector has been upraised. Mindanao's economy continue to grow with the unrelenting coordination and collaboration of the government investment promotion agencies, which provides support for the active involvement of Mindanao investors, prospective entrepreneurs, and stakeholders through involvements in the organization of trade fairs and exhibits, investment forums, summits, and conferences.

[3] NEDA, *Statement of Secretary Balisacan on the 2015 Fourth Quarter and Full-Year Performance of the Philippine Economy* published at the NEDA website.

Others

"Others" refer to public buildings, street lights, irrigation, agriculture and "others not elsewhere classified". This sector continued to post double-digit growth over the previous years.

The consistent performance of the "others" sector was fueled by the massive improvements in government spending coupled with the remarkable performance of both public and private infrastructure in 2015. Despite the adverse effects of weather-related natural occurrences, the agriculture, hunting, forestry, and fishing sector maintained its stable performance.

Own-Use and System Loss

With the increase in total capacity brought by newly operational power generation projects, station use of power plants and utilities' own-use for office and other equipment continued to increase in 2015 at 10.3% growth rate.

In 2015, total systems loss' share to total consumption at 9.1% was lowered compared to 2014 at 9.7% consistent with the thrust of energy agencies to reduce the national level of systems loss by increasing network efficiency, improving pilferage management, adopting appropriate standards and technology, implementing technical and management reforms and promoting energy efficiency relative to demand side management among others. Technical losses which are the residuals of day-to-day systems operation comprised the bulk of Distribution Utilities' (DUs) systems loss while non-technical losses include electricity pilferages mainly from Electric Cooperatives (ECs).

Table 31. 2015 Electricity Sales and Consumption of Distribution Utilities, by Grid

Electric Cooperatives (ECs)*	LUZON (MWh)	VISAYAS (MWh)	MINDANAO (MWh)	PHILIPPINES (MWh)
Residential	4,472	2,016	2,120	8,608
Commercial	1,804	864	872	3,540
Industrial	1,209	588	1,313	3,110
Others	582	461	427	1,470
Total Sales	***8,067***	***3,929***	***4,732***	***16,728***
Own-Use	19	13	11	43
System Loss	1,169	500	739	2,408
Total	***9,255***	***4,443***	***5,482***	***19,180***
Private Investors Owned Utilities (PIOU's)	**LUZON (MWh)**	**VISAYAS (MWh)**	**MINDANAO (MWh)**	**PHILIPPINES (MWh)**
Residential	12,056	1,052	1,031	14,139
Commercial	15,468	554	522	16,544
Industrial	12,113	2,131	1,698	15,942
Others	180	81	54	315
Total Sales	***39,817***	***3,818***	***3,305***	***46,941***
Own-Use	141	9	2	152

System Loss	2,693	318	231	3,243
Total	***42,651***	***4,146***	***3,538***	***50,336***
Non-Utilities/Directly Connected	**2,554**	**559**	**367**	**3,481**
Other Services	151	458	49	658
Plant Station Used	5,438	1,108	383	6,929
Transmission Losses	1,051	469	311	1,830
Total	***61,099***	***11,184***	***10,130***	***82,413***

**Includes Off-Grid Sales*

Source: DOE Power Statistics 2015

As presented in Table 31, about 60% of electricity consumed in the country in 2015 was delivered by Private Investors Owned Utilities (PIOUs), mostly from Luzon under MERALCO, while the share of ECs, mainly from Visayas and Mindanao constitute about 23% of the total electricity consumption. Based on Table 11, the majority of the customers of PIOUs include the industrial and commercial sectors while majority of electricity sales of ECs came from residential consumers. The remaining 15 % of electricity consumption came from non-utilities, directly-connected customers, other services, plant station-used, and transmission losses.

E. Significant Outages

LUZON

Calaca Unit 2 (300 MW) – on planned outage from 20 November 2015 to 25 January 2016;
Pagbilao Unit 1 (382 MW) – on extended planned outage from 30 May to 6 July 2015;
Masinloc Unit 2 (315 MW) – on extended planned outage from 1 January to 4 March 2015;
GNPower Mariveles Unit 1 (302 MW) – on forced outage from 26 October 2014 to 15 March 2015 due to actuation of generator fault protection;
GNPower Mariveles Unit 1 (302 MW) – on unplanned outage from 19-30 September 2016 due to condenser tube leak;
SLTEC Unit 1 (135 MW) – on forced outage from 11-21 May 2015 due to Steam leak trouble at the Turbine side; on forced outage from 27 July to 26 August 2015 due to governor trouble;
Sual Unit 1 (647 MW) – on planned outage from 7 August to 4 September 2015;
Sual Unit 2 (647 MW) – on planned outage 16 September to 15 November 2015; on extended planned outage from 16 November to 17 December 2015;
Ilijan GT 1-12 (200 MW) – on forced outage from 23 December 2014 to 26 February 2015 due to actuation of overspeed trip relay;
Ilijan B (600 MW) – on planned outage from 14 March to 16 April 2015; on forced outage from 17-22 June 2015 due to Malampaya Gas Restriction;
Ilijan B (600 MW) –on forced outage from 26 and 27 June 2015 due to Malampaya Gas Restriction;
Ilijan B (600 MW) –on forced outage from 31 August 2015 to 1 September 2015 due to Malampaya Gas Restriction;
San Lorenzo Module 50 (265 MW) – on planned outage from 31 October to 12 November 2015;

San Lorenzo Module 60 (265 MW) – on planned outage from 29 October to 4 November 2015;
Angat Main Units 1 and 2 (2 x 50 MW) - on planned outage from 20 May to 9 June 2015;
Angat Main Unit 1 and 2 (2 x 50 MW) – on planned outage from 10-13 June 2015; Unit 1 on unplanned outage from 14 June 2015 to 10 September 2015; Unit 2 on unplanned outage from 14 June 2015 to 1 August 2015;
Angat Main Unit 3 (50 MW) – on planned outage from 10-30 June 2015; on unplanned outage from 1 July 2015 to 1 August 2015;
Angat Main Unit 4 (50 MW) – on planned outage from 1 June 2015 to 1 February 2016;
Binga Units 1-4 (4 x 33 MW) - on forced outage from 24 – 26 April 2015 due to tail race spur dikes repair;
Kalayaan Unit 1 (180 MW) – on planned outage from 16-20 June 2015; on planned outage from 10-14 November 2015;
Kalayaan Unit 2 (180 MW) – on planned outage from 23-27 June 2015; on planned outage from 17-21 November 2015;
Kalayaan Unit 3 (180 MW) – on planned outage from 2-6 June 2015; on planned outage from 25-30 November 2015;
Kalayaan Unit 4 (180 MW) – on planned outage from 8-12 June 2015; on planned outage from 28 November to 3 December 2015;
Magat U1 (90 MW) – on planned outage from 6 April to 13 May 2015;
Magat U2 (90 MW) – on planned outage from 6 April to 15 May 2015;
Magat U3 (90 MW) – on planned outage from 5 January to 13 February 2015, 26 February to 28 March 2015 and 30 April to 7 May; on common system upgrading from 14 May to 3 June 2015;
Magat U4 (90 MW) – on planned outage from 20 February to 9 April 2015 and 30 April to 7 May; on common system upgrading from 14-30 May 2015;
Pantabangan Units 1 and 2 (2 x 60 MW) –on forced outage from 25 May to 1 July 2015 due to Cooling system repair; and
San Roque Units 1-3 (3x137 MW) – on planned outage from 26 May to 1 June 2015.

VISAYAS

Upper Mahiao Geothermal Power Plant (UMGPP) Unit 3 (27.1 MW) - on forced outage from 09 January to 19 February 2015 due to rectification of generator ground detection system;

Panay Energy Development Corporation (PEDC) Coal Unit 1 (82 MW) - on forced outage from 10 February to 05 March 2015 due to boiler tube leak and from 20 to 26 April 2015 due to auto-tripping;

Panay Energy Development Corporation (PEDC) Coal Unit 2 (82 MW) - on forced outage from 20 to 22 January 2015 due to boiler tube leak and from 24 to 28 May 2015 due to boiler problem;

Cebu Energy Development Corporation (CEDC) Coal Unit 1 (82 MW) - on maintenance from 21 February to 07 March 2015; on forced outage from 17 to 21 May 2015 due to boiler tube leak;

Cebu Energy Development Corporation (CEDC) Coal Unit 2 (82 MW) - on forced outage from 26 May to 06 June 2015;

Cebu Energy Development Corporation (CEDC) Coal Unit 3 (82 MW) - on maintenance from 14 to 28 January 2015; on forced outage from 28 February to 08 March 2015 due to boiler tube leak and from 13 to 20 May 2015 due to boiler problem;

KEPCO-Salcon Power Corporation (KSPC) Coal Unit 1 (103 MW) - on forced outage from 31 May to 03 June 2015 due to coal conveyor affected by fire;

KEPCO-Salcon Power Corporation (KSPC) Coal Unit 2 (103 MW) - on unplanned outage from 31 May to 14 June 2015 due to unit maintenance;

Cebu Energy Development Corporation (CEDC) Coal Unit 3 (82 MW) – on forced outage from 16 to 20 August 2015;

Panay Energy Development Corporation (PEDC) Coal Unit 2 (82 MW) – on forced outage from 10 to 24 August 2015; on forced outage from 03 to 05 November 2015; on forced outage from 07 to 09 November 2015 due to boiler tube leak;

Palinpinon Geothermal Power Plant 1 (PGPP1) Unit 3 (37 MW) – on maintenance from 07 August to 09 September 2015;

KEPCO-Salcon Power Corporation (KSPC) Coal Unit 1 (103 MW) – on maintenance 27 October to 11 November 2015;

Tongonan Geothermal Power Plant (TGPP) Unit 2 (36 MW) – on maintenance from 07 to 12 November 2015; and

Cebu Energy Development Corporation (CEDC) Coal Unit 1 (82 MW) – on forced outage from 06 to 15 November 2015 due to the conduct of boiler air nozzle replacement.

MINDANAO

STEAG Coal Unit 1 (105 MW) – on planned maintenance from 21 February 2015 to 12 March 2015;
STEAG Coal Unit 1 (105 MW) – on unplanned outage from 6 May to 14 May 2015
STEAG Coal Unit 1 (105 MW) – on planned outage from 20 November to 23 November 2015;
STEAG Coal Unit 2 (105 MW) – on planned outage from 19 February 2015 to 2 March 2015
STEAG Coal Unit 2 (105 MW) – on planned outage from 18 July to 16 August 2015;
STEAG Coal Unit 2 (105 MW) – on planned outage from 31 October to 2 November 2015;
Therma South Inc. (TSI) Coal U1 (150 MW) – on forced outage from 22 November to 7 December 2015;
Therma Marine Inc. (TMI) 1 Diesel Unit 1 and Unit 2 (100 MW) – on planned outage from 4 July 2015 to 8 July 2015;
Therma Marine Inc. (TMI) 1 Diesel Unit 2 (50 MW) – on planned outage from 21 March to 24 March 2015;
Therma Marine Inc. (TMI) 1 Diesel Unit 2 (50 MW) – on planned outage from 17 August to 22 August 2015;

Therma Marine Inc. (TMI) 2 Diesel Unit 1 (50 MW) – on planned outage from 24 January to 27 January 2015;
Therma Marine Inc. (TMI) 2 Diesel Unit 1 (50 MW) – on planned outage from 6 June to 14 June 2015;
Therma Marine Inc. (TMI) 2 Diesel Unit 1 (50 MW) – on forced outage from 3 October to 6 October 2015;
Therma Marine Inc. (TMI) 2 Diesel Unit 1 (50 MW) – on planned outage from 9 November to 12 November 2015;
Therma Marine Inc. (TMI) 2 Diesel Unit 2 (50 MW) – on unplanned outage from 16 June to 14 June 2015;
Agus 1 HEPP Unit 1 (25 MW) – on planned outage from 17 March to 30 March 2015;
Agus 1 HEPP Unit 1 (25 MW) – on planned outage from 2 September to 14 September 2015;
Agus 1 HEPP Unit 2 (25 MW) – on planned outage from 8 August to 27 August 2015;
Agus 2 HEPP Unit 1 (40 MW) – on planned outage from 7 April to 15 April 2015;
Agus 2 HEPP Unit 2 (40 MW) – on planned outage from 27 Feb to 9 March 2015;
Agus 2 HEPP Unit 2 (40 MW) – on planned outage from 1 October to 12 October 2015;
Agus 2 HEPP Unit 2 (40 MW) – on planned 16 December to 30 December 2015;
Agus 2 HEPP Unit 3 (40 MW) – on planned outage from 31 January to 23 February 2015;
Agus 2 HEPP Unit 3 (40 MW) – on planned outage from 1 September to 15 September 2015;
Agus 4 HEPP Unit 1 (50 MW) – on planned outage from 23 January 2015 to 20 February 2015;
Agus 4 HEPP Unit 1 (50 MW) – on planned outage from 14 December to 24 December 2015;
Agus 4 HEPP Unit 2 (50 MW) – on planned outage from 1 July 2016 to 10 July 2016;
Agus 4 HEPP Unit 2 (50 MW) – on planned outage from 24 November to 30 November 2015;
Agus 4 HEPP Unit 3 (50 MW) – on planned outage from 22 April 2015 to 5 May 2015;
Agus 4 HEPP Unit 3 (50 MW) – on planned outage from 21 August to 30 August 2015;
Agus 5 HEPP Unit 1 (27.5 MW) – on planned outage from 16 October to 22 October 2015;
Agus 5 HEPP Unit 2 (27.5 MW) – on unplanned outage from 13 April to 21 April 2015;
Agus 6 HEPP Unit 1 (25 MW) – on planned outage from 8 April to 20 April 2015;
Agus 6 HEPP Unit 1 (25 MW) – on planned outage from 10 November to present (UPRATING PROJECT);
Agus 6 HEPP Unit 2 (25 MW) – on deactivated shutdown due to generator problems from 23 HEPP October 2014 until present (UPRATING PROJECT);
Agus 6 HEPP Unit 3 (50 MW) – on planned outage from 18 May to 15 August 2015;
Agus 6 HEPP Unit 4 (50 MW) – on forced outage from 4 May to 9 September 2015;
Agus 6 HEPP Unit 4 (50 MW) – on unplanned outage from 3 November to 9 December 2015;

Agus 7 HEPP Unit 1 (27 MW) – on unplanned outage from 18 March to 2 April 2015;
Agus 7 HEPP Unit 2 (27 MW) – on forced outage from 2 September to 29 December 2015;
Pulangi 4 HEPP Unit 1 (75 MW) – on forced outage due to thrust bearing oil leak from 22 March to 22 May 2015;
Pulangi 4 HEPP Unit 2 (75 MW) – on planned outage 15 June until 14 July 2015;
Pulangi 4 HEPP Unit 3 (75 MW) – on forced outage due to earth fault indication from 15 January 2015 to 27 March 2015;
Pulangi 4 HEPP Unit 3 (75 MW) – on forced outage due to high turbine guide bearing oil level from 19 April 2015 to 29 April 2015;
Pulangi 4 HEPP Unit 3 (75 MW) – on forced outage from 30 September to 20 October 2015;
Mt. Apo Geothermal Power Plant (MAGPP) Unit 1 (54 MW) – on planned outage from 13 July to 13 August 2015; and
Mt. Apo Geothermal Power Plant (MAGPP) Unit 2 (54 MW) – on planned outage from 18 October to 28 October 2015

F. 2015 Significant Incidents in the Power System

19 February 2015 – Visayas Partial Blackout

There was a widespread system disturbance in Visayas grid which occurred last 19 February 2016 at around 1:45 AM due to a fault caused by the explosion of Potential Transformer (PT) at the 138 kV side of Cebu Diesel Power Plant 1 (CDPP1) Generator Transformer No. 2 connected to the NGCP Old Naga substation.

Power restoration was completed at 9:09 AM of the same date.

15 March to 13 April 2015 – 2015 Malampaya Turnaround and the Projected Power Shortage

In the advent of a projected power shortage in the Luzon grid in Summer 2015, Shell Philippines Exploration B.V. conducted their 30-day maintenance of the Malamapaya turnaround to give way for the coupling of the newly-built Malampaya Phase 3 platform to the existing platform in order to increase the capability to retrieve the indigenous gas supply in SC-38. With this maintenance, gas supply for natural gas has been cut out. Contingency plan during this event is the operation of 1,500 MW Sta. Rita and San Lorenzo Natural gas-fired power plant in Batangas using condensate, which is more expensive compared to the natural gas from Malampaya. For the 1,200 MW Ilijan plant,also in Batangas, Block A (600 MW) was operated using biodiesel at a limited capacity of 420 MW while Block B was scheduled for maintenance.

The anticipated power shortage in Luzon during summer did not occur due to the following reasons:

- Cooler temperature that was extended in March 2015 where temperature was expected to be high. This lead to a lower actual demand in March compared to the projection;

- o High hydro capacity during the period of Malampaya turnaround due to the series of coordination meetings among hydro power plant operators to conduct water management;
- o Additional capacity from the operation of expected committed power projects such as 135 MW SLTEC coal-fired power plant Unit 1 in Batangas, 41.3 MW Majestic Solar Rooftop project in Cavite, and 10 MW Raslag Solar Farm project in Pampanga; and
- o Lower actual Forced Outage in the summer of 2015 from power plants compared to the actual 2014 Forced Outage where there were frequent outage of large power plants in the summer of 2014.

5 April 2015 – Mindanao Blackout

At 1:01 AM of 5 April 2015, Mindanao grid experienced a system blackout. A fault occurred on Line 2 of Agus 7 138 KV which was caused by the failure of the insulator of Agus 7 138 kV double circuit line 2 Phase A due to severe corrosion of the suspension insulator shank. The sequence of events led to the tripping of the transmission lines and power plants followed by the splitting of the Mindanao grid into two sub-grids - the Northern and Southern part, then ultimately resulted in total system collapse. The system collapse was due to the lack of supply during that time to support the demand.

All Area Control Centers (ACC) sub-grids were interconnected and all NGCP substations were fully energized at 7:52 AM of 5 April 2015.

June 2015 – Fire incident that affected the operations of KSPC

A fire incident happened last 31 May 2015 within the compound of the coal plant of KSPC which affected the coal conveyors of the generating facilities. Both units were out from 31 May to 03 June 2015 that put the Visayas grid on Red Alert status. KSPC Unit 1 (103 MW) went online on 4 June 2015 while KSPC Unit 2 (103 MW) was on unplanned maintenance from 31 May to 14 June 2015.

October 2015 – Typhoon Lando

On 12 October 2015, a typhoon was detected in the Pacific Ocean named “Lando” with an international name “Koppu”. It entered the Philippine Area of Responsibility (PAR) on 14 October 2016 and made its landfall on 18 October 2016 over Casiguran, Aurora with a maximum speed of 185 kph and gustiness of 220 kph. There were four (4) 500 kV lines, twelve (12) 230 kV lines, and forty-two (42) 69 kV lines that were affected during the passage of the said typhoon. Typhoon Lando dissipated on 21 October 2015 as it entered from Aurora, crossed Nueva Ecija, Nueva Viscaya, Benguet, Ilocos Sur, and exited Ilocos Norte leaving 13 provinces with full or partially province-wide power outages due to the affected transmission lines.

2015 El Niño Phenomenon[4]

Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) declared the state of El Niño in 2015 characterized by unusually warm ocean surface temperatures in the central and eastern equatorial Pacific. This results to period of long dry spell to drought characterized by below to way below

[4] *PAGASA El Niño Advisories*

normal rainfall conditions. From weak to moderate conditions in the early months of 2015, Strong El Niño has evolved starting fourth quarter of 2015 affecting most parts of the country. This phenomenon persisted until June 2016 which resulted to high system demand and low water level of reservoirs and weirs especially in Mindanao.

Bombed and Toppled Transmission Towers in Mindanao for 2015

In 2015, there were occurrences of transmission tower bombings in Mindanao which caused interruption in the power delivery of power plants. Series of investigations and coordination meetings in Congress, under the House Committee on Energy, were held to seek resolutions on the issue as well as to resolve any peace and security concerns to prevent future bombings of the power industry assets such as transmission towers, substations, and others. Following are the towers bombed in 2015:

- Tower No. 26 Kabacan – Sultan Kudarat 138 kV Line – 13 January 2015
- Tower No. 41 Kabacan – Sultan Kudarat 138 kV Line – 18 January 2015
- Tower No. 155 Kabacan – Tacurong 138 kV Line – 26 January 2015
- Tower No. 25 Kabacan – Sultan Kudarat 138 kV Line – 27 January 2015
- Tower No. 44 & 45 Kibawe – Sultan Kudarat 138 kV Line – 9 October 2015
- Tower No. 110 Kibawe – Sultan Kudarat 138 kV Line – 18 October 2015
- Tower No. 19 & 20 Agus 2 – Kibawe 138 kV Line – 29 October 2015
- Tower No. 21 Agus 2 – Kibawe 138 kV Line – 29 October 2015
- Tower No. 13 Agus 2 – Kibawe 138 kV Line – 6 November 2015
- Tower No. 69 Kibawe – Tacurong 138 kV Line – 6 November 2015
- Tower No. 68 Kibawe – Sultan Kudarat 138 kV Line – 10 December 2015
- Tower No. 168 Kibawe – Sultan Kudarat 138 kV Line – 18 December 2015
- Tower No. 153 Kibawe – Tacurong 138 kV Line – 23 December 2015
- Tower No. 25 Agus 2 – Kibawe kV Lines 1 and 2 – 24 December 2015
- Tower No. 95 Kibawe – Sultan Kudarat 138 kV Line – 24 December 2015
- Tower No. 4 Balo-I Agus 2 138 kV Lines 1 and 2 – 28 December 2015

G. Status of Government Generating Assets

1. Agus VI HEPP Uprating Project

The Project consists of engineering investigation, design, manufacturing and installation of new hydropower turbines and blades for the uprating of Units 1 and 2 from 25 MW to 34.5 MW per unit.

The Project was awarded to the joint venture of Guangxi Hydroelectric Construction Bureau and ITP Construction Inc. in December 2013 and is targeted for completion by June 2016. The table below shows the Project's Milestone Schedule:

Activities	Timeline
a. Detailed Engineering	January 2014 to July 2014
b. Manufacturing	April 2014 to March 2015
c. Start of construction	January 2015
d. Target Completion Date	July 2016

As of 31 March 2016, the Project's overall accomplishment is 95.32% with the following activities:

Table 32. Project Over-All Accomplishments as of 30 April 2016

Item	Activity	% Weight	% Accomplishment as 30 April 2015	% of Cumulative Weight
1.0	Mobilization	5.0	100%	5.0
2.0	Engineering Design	15.0	100%	15.0
3.0	Turbine Model and Manufacture of Equipment	38.0	100%	38.0
4.0	Equipment Delivery			
	Unit 2	7.0	100%	7.0
	Unit 1	7.0	80%	5.6
	Common Plant Equipment	8.0	100%	8.0
5.0	Purchase of Major Equipment Components and Materials for Fabrication and Construction	5.5	100%	5.5
6.0	Construction of Temporary Facilities	4.5	100%	4.5
7.0	Installation			
	Unit 2	3.0	98%	2.94
	Unit 1	3.0	6%	0.18
	Civil and Architectural Construction	4.0	90%	3.6
	Total	**100.0**		**95.32**

Source: PSALM

The following are the specific activities during the month of March 2016:

a. Completed the installation of Unit 2 rotor and stator;
b. On-going installation of Unit 2 main transformer;
c. On-going assembly of Unit 2 pit pipeline;
d. On-going installation of Unit 2 upper cover plate;
e. On-going installation of Unit 2 enclosed busbar;
f. On-going installation of Unit 2 automation components;
g. On-going rust removal and painting of Unit 2 intake gate trash rack;
h. On-going installation of Unit 1; and
i. Awaiting Unit 5 shutdown for hauling of Unit 1 rotor to the Nature's Park

2. Malaya Thermal Power Plant (MTPP)

The following are details on the developments on the scheduled rehabilitation of MTPP:

Operation and Maintenance Service Contract (OMSC)

PSALM BAC declared STX Marine Service Co., Ltd. as the bidder with the Lowest Calculated Responsive Bid and recommended to the PSALM Board, through the BRC, the issuance of the Notice of Award (NOA) to STX.

The PSALM Board Review Committee deferred its endorsement for the award of OMSC to STX and instructed the BAC to present the calculation for the slippage and liquidation damages incurred by STX in the implementation of MTPP Unit 1 Overhauling Project, which is an ongoing project of STX and interpretations by the PSALM management of the relevant provision of RA 9184 on slippage and liquidated damages.

On 10 November 2015, the PSALM Board deferred decision for the award of the new OMSC and directed PSALM to seek the opinion of the OGCC.

On 12 April 2016, PSALM received from the Office of the Government Corporate Counsel (OGCC) the requested opinion on the issuance of the Notice of Award to STX Marine Service. OGCC's opinion entailed recommendation for the Procuring Entity or the PSALM Board to grant the issuance of the Notice of Award to STX Marine Service.

PSALM had implemented twice extension of services of the existing OMSC pending the PSALM Board's decision on the award of the new contract initially for four (5) months covering from 25 October until 25 January 2016 and another for five (5) months covering from 25 January 2016 until 25 June 2016.

PSALM Board shall convene for the discussion and finalization on the award of the new contract.

H. Status of Transmission Projects

1. Luzon

The Luzon Power Circuit Breaker Replacement (PCB) Project includes 9 x 230 kV and 9 x 115 kV PCBs as replacement for the old units in San Jose, Labo, Malaya, and Gumaca to improve the system reliability. The 115 kV PCBs included in this project are all classified as transmission assets. This project is 71.58% complete as of 30 April 2016 and is scheduled to be completed on 31 December 2016.

Figure 11. San Jose-Quezon 230kV Line 3 T/L Project

The San Jose-Quezon (Balintawak) Line 3 Transmission Line project involves the construction of the third circuit at San Jose-Quezon 230 kV transmission corridor. This will increase the transfer capacity of the line to address the projected overloading problem during an outage of one of the San Jose-Quezon circuits at peak load condition. Without this project, the dispatch of the power plants delivering power to the 500 kV system will have to be limited to maintain the N-1 contingency for the line, which may also require load dropping within Metro Manila. This project shall also complement the capacity addition (from 4-600 MVA to 4-750 MVA) at San Jose EHV Substation with the completion of the transformer replacement project threat, thus improving the overall reliability and security of the grid. Currently, as of 30 April 2016, the substation and transmission components of this project are 91.2% and 80.04% complete, respectively, with target date of completion for the substation portion on 31 October 2016 and for the transmission portion on 31 December 2017.

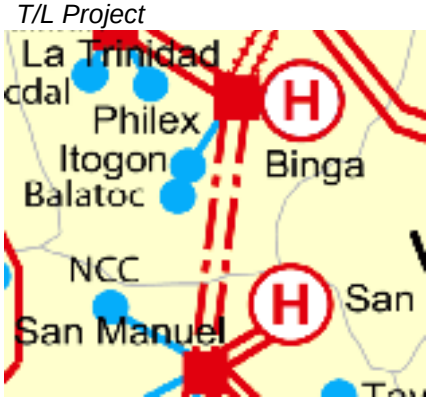
The Ambuklao-Binga Transmission Project involves the upgrading of 11km, 230 kV Transmission Line together with 6-230 kV PCB and associated equipment in Ambuklao Substation to maintain N-1 contingency taking into consideration the repowering of Ambuklao Hydro Electric Power Plant (HEPP) to a new capacity of 105 MW and also the proposed expansion of Magat HEPP (180 MW additional capacity). Thus, during maximum generation of both power plants, this project will prevent the overloading under N-1 contingency condition, i.e., outage of one 230 kV circuit. The substation component of this project is 76.4% complete as of 30 April 2016 and has a target date of completion on 31 July 2017.

Figure 12 .Ambuklao-Binga 230kV T/L Project

Figure 13. Lumban-Bay 230kV T/L Project (a)

The Lumban (Kalayaan)-Bay (Makban) 230 kV Transmission Line Project aims to maintain the N-1 contingency for the existing Lumban-Bay transmission corridor that could allow all possible generation dispatch scenarios for the power plants in Southern Luzon. The Lumban-Bay 230 kV Line is an important transmission corridor in providing operational flexibility, particularly during maintenance of other 230 kV transmission lines. It also complements the upgraded (through the 230 kV Line 4) Biñan-Muntinlupa 230 kV transmission lines by increasing the transfer capacity of this alternate corridor for the generated power from the Sta. Rita/San Lorenzo NGPP and Makban GPP. It helps supply Taytay Substation and also supplies Kalayaan Pumped Storage Hydro during its operation as a pump during off-peak hours. The upgrading is also expected to reduce system loss during pumping of Kalayaan units as the Kalayaan-Bay transmission corridor provides the shortest route from generation sources. This project also involves the full development of Lumban Substation as a bulk power delivery point where all the transmission lines in the area will be terminated. The resulting configuration is such that both the existing Kalayaan and Calauan Substations will become radial end substations from Lumban Substation. The status of transmission and substation components of this project are 100% and 97% complete, respectively, as of 30 April 2016. Though, transmission component of the project has already been completed, its other sub-components were scheduled to be energized in various months of 2016. The substation component has a target date of completion on 30 September 2016.

Figure 14. Binga-San Manuel 230 T/L Project



The Binga-San Manuel Transmission Line project involves the construction of a new 40 km double circuit Binga-San Manuel 230 kV transmission line using new right–of-way, including the installation of switching facilities at Binga and San Manuel Substations. The project aims to provide N-1 contingency during maximum dispatch of the generating plants, particularly HEPPs, in north Luzon. The existing line, as well as the power circuit breakers at Binga Substation, which were constructed/installed in 1956 have already surpassed their economic lives. Moreover, there are developments in the power plants affecting the power flow at Binga-San Manuel 230 kV line. These include the repowering of Ambuklao HEPP to a new capacity of

105 MW (previously at 75 MW capacity) and the completion of Binga HEPP expansion to an additional capacity of 25 MW. The substation components of this project are divided into two (2) stages wherein Stage 1 is for Binga Substation and Stage 2 is for San Manuel Substation. Binga Substation was already energized on 21 December 2015, though here are remaining minor works (e.g. building painting, quality assurance repairs, gravels bedding, etc.) to be done with status of 98.4% complete. The San Manuel Substation has the status of 83.8% complete, as of 30 April 2016. The target date of completion for Binga and San Manuel Substations will be on 31 December 2018 and 31 July 2017, respectively.

Figure 15. San Esteban-Laoag 230kV T/L Project

The second stage of San Esteban-Laoag 230kV Transmission Line project involves the construction of a double-circuit line from San Esteban to Laoag Substation and the construction of Laoag 230 kV Substation. Currently, there is only one 115 kV circuit supplying Bantay (from San Esteban), Currimao (from Bantay) and Laoag (from Currimao). Therefore, any outage of line between these stations would result in interruption of power at the receiving stations. The project will strengthen the existing 115 kV transmission system as Ilocos Norte has been identified as one of the areas with high generation potential from wind farms. Also, having single 115 kV circuit only from San Esteban to Laoag, this project will comply with the N-1 contingency provision as stated in Grid Code. In December 2015, all the components of the said project were all completed and energized.

Figure 16. Santiago-Tuguegarao 230kV T/L Project

The Santiago-Tuguegarao 230kV Transmission Line project involves the installation of a second circuit from Santiago to Tuguegarao Substations bypassing Gamu Substation. This new line will provide reliability as tripping of the existing Santiago-Gamu and Gamu- Tuguegarao 230 kV lines will no longer result in the isolation of the customers in the provinces of Isabela and Cagayan. The project will benefit the northeastern part of the Luzon Grid by providing reliable power supply. This shall also serve as the first step in strengthening this part of the grid as Cagayan is also among the areas identified to be rich in RE potentials, particularly wind. As of 30 April 2016, the transmission and substation components of the project are 99.3% and 94.1% complete, respectively. The target date of completion for transmission component is on 31 December 2016 while the substation component is expected to be completed on 31 December 2017.

Luzon Substation Reliability Project 1 involves the provision of N-1 contingency at Botoloan, Labo, and San Esteban Substations with only one transformer installed. This will ensure reliable supply of power for the connected customers even during transformer outage or maintenance shutdown. This project is 94.7% complete as of 30 April 2016 with target date of completion on 30 September 2016.

Luzon Substation Expansion III project involves the installation of transformers at Batangas, Calaca and Bay Substations to maintain the provision for N-1 contingency

due to high and increasing load. Two units will be installed (2-300 MVA) in Batangas Substation for capacity upgrade to meet the growing demand in the area and for provision of N-1 contingency. For Bay Substation, which is presently with 1-100 MVA transformer only will be provided with the second 100 MVA transformer unit. In Calaca Substation, on the other hand, the additional new 100 MVA transformer will be re-packaged under Calaca Substation Expansion and Calaca-Dasmariñas Line Projects, which are associated with the generation capacity expansion in the area. The two transformers in Batangas S/S were already energized while Bay S/S was energized on 19 February 2016. Due to the remaining minor works (e.g. building painting, quality assurance repairs, gravel bedding, etc.) that needs to be done, the project is expected to be fully completed on 30 September 2016 with 98.7% completion status as of 30 April 2016.

Dasmariñas EHV Substation Expansion project involves the installation of additional capacity both in the 500 kV and 230 kV substations in Dasmariñas, Cavite. The 600 MVA capacity expansion at the EHV substation is required in order to maintain N-1 contingency during maximum dispatch of Ilijan NGPP, Quezon Power Philippines Ltd. (QPPL) and Pagbilao CFPPs. Similarly, the third 300 MVA 230/115 kV transformer in Dasmariñas will be required in order to maintain N-1 contingency as the loads being served by the substation continue to grow. This project also involves the replacement of the 230 kV circuit breakers at Dasmariñas Substation as the resulting fault level will already exceed the interrupting capabilities of the existing circuit breakers. The 300MVA transformer was energized and in commercial operation already since 27 October 2014 yet there are still minor works (e.g. building painting, quality assurance repairs, gravel bedding, etc.) to be done with 99.3% complete as of 30 April 2016.

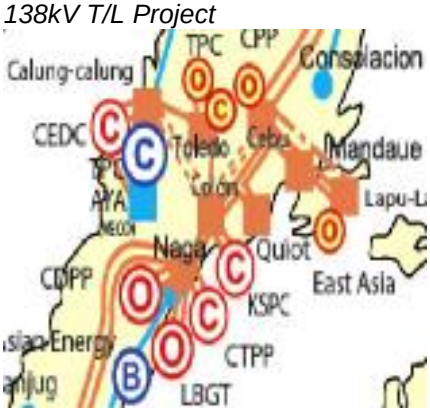
Figure 17. Las Piñas S/S Project

Las Piñas (Zapote) Substation Expansion project is intended to meet the ever increasing demand in Metro Manila and to comply with the N-1 provision as stated in Grid Code. The substation is loaded more that 85 % already under normal condition and any outage of one transformer would result in overloading of the remaining transformer in service. Thus, it has no more provision for single-outage or N-1 contingency which is a reliability standard of the PGC. The present situation is very detrimental for the reliability of power supply to Metro Manila. In March-April 2012, when one transformer at Las Piñas Substation was damaged, sub-sectorization of the 115 kV distribution network of Meralco was implemented to avoid load shedding. This resulted in both reliability and low voltage issues as the 115 kV lines connected to Las Piñas Substation were put on radial configuration. Las Piñas Substation is critical to the successful operation of the WESM, hence without N-1 contingency, pricing error notices were declared for some trading intervals in the market due to constraint violations. The project scope will also include the expansion of the GIS switchyard not only to provide termination for the 4th bank but also for the termination of the proposed 230 kV transmission lines going to a new substation in Pasay City. As of 30 April 2016, its status is 87.4% complete and expected to be completed on 31 December 2016.

2. Visayas

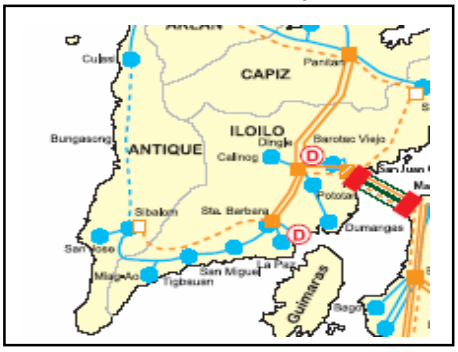
The Calung-Calung-Colon 138 kV T/L project shall increase the transfer capacity for the existing 3-82 MW Cebu Energy Development Corporation (CEDC) Coal-Fired Power Plant (CFPP), and accommodate the entry of the 82 MW Toledo Power Company (TPC) CFPP. The new 138 kV line will also provide N-1 contingency along the Calung-calung-Colon corridor. In addition, Toledo Substation will have two alternative routes to receive power from CEDC via Calung-calung-Toledo 138 kV Line or Calung-calung-Colon-Toledo 138 kV Line. This project, as of 30 April 2016, has a 96.9% and 98.7% completion for its transmission and substation components, respectively. The transmission and substation component are both expected to be completed on 30 September 2016.

Figure 18. Calung-Calung-Colon 138kV T/L Project



The Southern Panay Backbone 138 kV Transmission Project is part of the Panay Power Transmission backbone which involves the installation/construction of a total of 97 kilometers of 138 kV and 69 kV overhead transmission lines which is aimed to accommodate the load growth and address the low voltage problem in Southern Panay. The transmission component of the project was already completed and energized. On the other hand, Sta. Barbara substation and San Jose substation were already energized on 29 December 2015 and 19 March 2016, respectively. With the remaining minor works (e.g. building painting, quality assurance repairs, gravel bedding, etc.) to be done, the project's target completion date is on 30 June 2016 with status of 98.8% complete as of 30 April 2016.

Figure 19. Southern Panay Backbone 138 kV Transmission Project

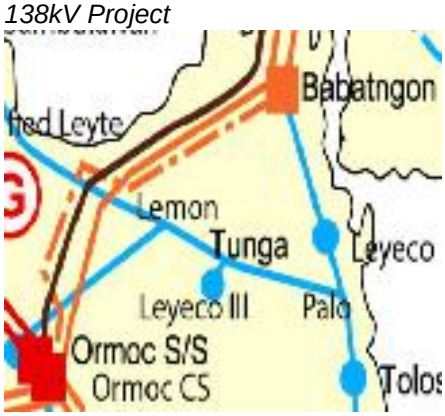


The Colon (New Naga)-Cebu (Banilad) 138 kV Transmission Line project involves the construction of 25 km, 138 kV double circuit transmission line that utilizes two bundles of 795 MCM ACSR conductor per circuit from Colon directly to Cebu. It also includes PCB and associated equipment at Colon S/S (4-138kV PCB) and Cebu S/S (2-138kV PCB). The transmission and substation components of this project, as of 30 April 2016, were 96.1% and 99.02% complete, respectively. The target completion date for transmission and substation component are on 31 December 2016 and 31 July 2016, respectively.

Figure 20. Colon-Cebu 138kV T/L Project

The Ormoc-Babatngon Transmission Line project involves the construction of 138 kV steel tower overhead transmission line utilizing 1-795 MCM ACSR conductor as second line/circuit of the existing Ormoc-Babatngon 138 kV line to comply with N-1 contingency provision of the Grid Code. It also involves the expansion of Ormoc and BabatngonSubstations.The structures will be designed for a double circuit line but will be single circuit strung initially. As of 30 April 2016, the transmission and substation components of this project are 92.5% and 96.7% complete, respectively. This project's transmission component has a target date of completion on 31 March 2017 while the substation component is expected to be completed on 30 September 2016.

Figure 21. Ormoc-Babatngon T/L 138kV Project



The Ormoc-Maasin 138kV Transmission Line Project involves the 2nd circuit stringing of existing single circuit Ormoc-Maasin 138kV line to comply with N-1 co ntingency provision of Grid Code in order to prevent power outage in Bohol as well as in Southern Leyte. It will also benefit the eco-tourism activities in Bohol since the island relies heavily on the power supply from Leyte. The status of this project, as of 30 April 2016, is 95.9% and 96% complete for transmission and substation components, respectively. The project's target date of completion for transmission is on 31 December 2016 while its substation component is expected to be completed on 30 November 2016.

Figure 22. Ormoc-Maasin 138kV T/L Project

The Sta. Rita-Quinapondan 69 kV Transmission Line project is intended primarily to make Quinapundan Substation closer to its power source and thus, provide a more reliable power delivery system. At present, the Quinapundan Substation draws its power from NGCP's 138 kV Paranas Substation via a long stretch of 69 kV woodpole line, i.e., Paranas-Taft-Borongan-Quinapundan, which is approximately 191 kilometers long. This very long 69 kV line is prone to frequent tripping as it traverses some mountainous terrain in a predominantly rural area. Therefore, this project aims to form a 69 kV line loop from the existing Sta. Rita Substation to Quinapundan. The line shall provide an alternate supply route to the Eastern Samar load-end substations. As of 30 April 2016, the project is 90.4% complete and is scheduled for completion on 31 March 2017.

Figure 23. Sta. Rita-Quinapondan 69 kV T/L Project

The Visayas Substation Reliability Project I entails the installation of 500 MVA substation capacity to address the projected overloading of Ormoc, Amlan, Bacolod, Cadiz, Babatngon, Maasin, and Samboan S/S during N-1 occurrence. The installation of these transformers will improve the security and reliability of the Visayas Grid. The loss of a single transformer at any of these seven substations which four have only one transformer, namely: Cadiz, Babatngon, Maasin and Samboan, will interrupt the

supply of power to consumers. Therefore, the addition of a second transformer at these substations will provide N-1 capability. The status of Ormoc substation is 96.7% complete as of 30 April 2016 with target date completion on 30 September 2016 while Babatngon substation was already energized on 18 July 2015. On the other hand, Amlan, Bacolod, Maasin and Samboan substation components are 84.7% complete as of 30 April 2016 with target date of completion on 30 September 2017. The Cadiz substation was energized on 17 January 2016.

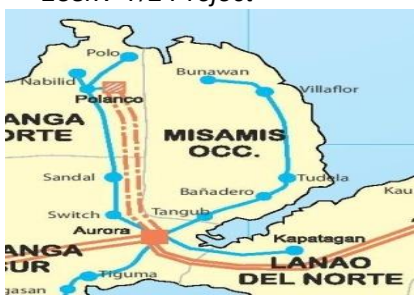
The Culasi-San Jose 69kV Transmission Line Project will provide alternate power source from either Culasi, Aklan in the north or Sibalom, Antique in the south. The formation of a 69 kV line loop will improve the reliability of supply towards the province of Antique in the western side of Panay Island. As of 30 April 2016, the status of Schedule 1A&2A and 1B&2B of this project for erection portion are 83.6% and 94.5 complete, respectively. On the other hand, the supply portion for both schedule were already completed.

Figure 24. Culasi-San Jose 69kV T/L Project

3. Mindanao

The Aurora-Polanco 138 kV T/L Project is intended to serve the growing power demand of Dipolog City and surrounding load centers. This will ensure a continuous and reliable power supply in the area. Currently, Dipolog City including neighboring cities and municipalities draw their power requirements from the Aurora Substation a very long 69 kV single circuit transmission line. The contractor of the project, China National Electric Engineering Company Limited has backed out and stopped all its activities on 22 March 2013 at 30.5% complete for transmission portion and on 27 April 2013 (Polanco) at 28% complete for substation portion, thus, the NGCP will need to re-bid the remaining work components of the project. As of 30 April 2016, transmission line component has already started with status of 5.72% complete while the substation component has the notice of award already. The transmission line component is expected to be completed on 4 March 2017.

Figure 25. Aurora-Polanco 138kV T/L Project



The Matanao-Gen. Santos 138 kV Transmission project is part of the Reliability Compliance Project I - Mindanao, which involves the provision of N-1 contingency to the existing Matanao-Gen. Santos 138 kV transmission corridor. Without the project, an outage of the existing Matanao-Gen. Santos line, the Tacurong-Gen. Santos line will not be able to accommodate the load of Gen. Santos Substation starting 2015. As of 30 April 2016, the transmission and substation components are 98.4% and 88.7% complete, respectively. The target date of completion for transmission component is on 30 June 2016 while the substation components is expected to be completed on 30 September 2016.

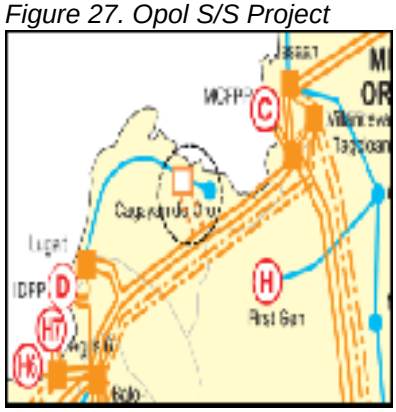
Figure 26. Matanao-Gen. Santos 138kV T/L Project

The Mindanao Substation Expansion II involves the installation of 100MVA new transformer unit at Gen. Santos Substation and deployment of its existing 50MVA unit to Kidapawan Substation. This will enable the said substations to meet demand growth and improve system reliability. The status of this project, as of 30 April 2016, is 88.7% complete and is scheduled for completion on 30 September 2016.

The Mindanao Substation Reliability Project I involve the installation of four (4) transformers with a total 275 MVA substation capacity to provide N-1 capability to Aurora, Jasaan and Lugait substations in Mindanao. The Aurora substation was energized on 17 February 2014 while Jasaan was energized on 6 December 2015. The status of Lugait substation is 90.5% complete as of 30 April 2016 and its expected completion is on 30 June 2016.

The new Opol Substation will be strategically located to serve the load centers of CEPALCO and MORESCO I, with both areas showing significant increase in demand. The new substation, which will initially be via-"cut-in" connection scheme along the Lugait-Tagoloan 138 kV transmission line, will avoid the overloading of the Lugai-Carmen 69kV line. The transmission component was already completed on 12 November 2015 while its substation component is 88.2% complete with target date of completion on 30 September 2016, as of 30 April 2016.

Figure 27. Opol S/S Project



I. Distribution Infrastructure Projects

1. ERC-Approved Capital Expenditure (CAPEX) Projects

For this period, the ERC granted approval to the Capital Expenditure (CAPEX) Projects applications filed by nine (9) Distribution Utilities namely: Camarines Sur I Electric Cooperative, Inc. (CASURECO I), Batangas I Electric Cooperative, Inc. (BATELEC I), Aklan Electric Cooperative, Inc. (AKELCO), Antique Electric Cooperative, Inc. (ANTECO), Misamis Oriental I Rural Electric Service Cooperative, Inc. (MORESCO I), Pampanga I Electric Cooperative, Inc. (PELCO I), Zamboanga Del Sur I Electric Cooperative, Inc. (ZAMSURECO I), Quezon I Electric Cooperative Inc. (QUEZELCO I), and Manila Electric Company (MERALCO). Details of these projects are shown in Annex 10.

2. Private Sector Financing of CAPEX Projects on System Loss Reduction

For this report period, the Central Negros Electric Cooperative, Inc. (CENECO) was added to the list of booked accounts with releases, increasing to PHP2.935 billion the total loan availment of ECs guaranteed under the Electric Cooperative Partial Credit Guarantee (ECPCG) Program.

With the success of the existing ECPCG Program, the national government has endeavored for the expansion of the Program to extend the provision of partial credit guarantee coverage to renewable energy (RE) projects of electric cooperatives (ECs). The Clean Technology Fund, which is being implemented by the World Bank, was identified to provide the additional funding for this expansion via the Philippines Renewable Energy Development (PHRED) Project. To date, the PHRED Project has undergone the approval processes of the Investment Coordination Committee and the Monetary Board.

DOE is the implementing agency of the existing ECPCG Program, which provides partial credit guarantee coverage of up to 80% of the outstanding loans of ECs from commercial banks for the financing of their power distribution system upgrades.

Table 33. ECs Booked in EC-PCG Program

	EC	Loan Amount (PhP Million)	ECPCG Program Guaranteed Amount (PHP Million)	Lender	Signing Date of Loan and Guarantee Agreements
A. Booked Accounts with loan releases					
1	MORESCO I	115.00	92.00	Security Bank	July 20, 2010
2	PANELCO I	113.00	90.40	BPI	September 15, 2010
3	SOCOTECO I	102.42	81.94	BPI	October 05, 2010
4	SURNECO	85.00	68.00	UCPB	March 03, 2011
5	FIBECO	143.00	114.40	PNB*	May 16, 2011
6	BUSECO	135.90	108.72	BPI	February 11, 2011
7	BOHECO I	106.46	85.17	DBP	June 13, 2011
8	DANECO	172.37	137.90	UCPB	October 04, 2011
9	MORESCO II	135.49	108.39	BPI	December 16, 2011
10	CANORECO	133.25	106.60	BPI	July 15, 2011
11	LUELCO	173.12	138.50	PNB*	December 07, 2012
12	MOELCI I	137.25	109.80	UCPB	July 06, 2012
13	CAMELCO	140.00	112.00	BPI	November 09, 2011
14	NEECO I	94.80	75.84	PNB*	June 06, 2012
15	BENECO	163.50	130.80	BPI	December 28, 2012
16	BUSECO (2nd loan)	43.49	34.79	PNB	December 13, 2012
17	FICELCO	106.10	84.88	Security Bank	July 26, 2013
18	LEYECO V	185.86	148.69	Security Bank	December 03, 2013
19	PALECO	167.00	133.60	PNB	December 19, 2012
20	BOHECO II	184.18	147.34	Security Bank	June 27, 2013
21	BOHECO I (Additional)	81.07	64.86	DBP	May 13, 2014
22	BUSECO (3rd loan)	25.88	20.70	Security Bank	May 08, 2015
23	CENECO	191.68	153.34	Security Bank	March 07, 2016
Sub-Total		**2,935.82**	**2,348.66**		
B. Committed Accounts (Booked Accounts with no loan releases yet)					
1	AKELCO	181.72	145.38	UCPB	August 16, 2013
2	COTELCO	180.03	144.02	UCPB	March 18, 2014
3	CAGELCO I	36.87	29.49	PNB	December 19, 2014
4	SORECO I	103.74	82.99	Security Bank	January 29, 2015
5	SOCOTECO I (2nd loan)	91.92	73.54	DBP	February 11, 2015
6	MORESCO II (2nd loan)	40.00	32.00	Security Bank	March 11, 2015
Sub-Total		**634.28**	**507.42**		
Grand Total		**3,570.09**	**2,856.08**		

** These accounts were originally booked by Allied Bank prior to its merger with PNB.*
Source: DOE, LGUGC

VI. TOTAL ELECTRIFICATION

Under *Sec. 2(a) of the EPIRA 2001*, it is the declared policy of the State to ensure and accelerate the total electrification of the country. Said law also mandates the DUs to provide universal service in their franchise areas including unviable areas at a reasonable time. The Government has implemented a massive and focused action to increase and accelerate access to electricity services by the country's unenergized communities and households while contributing to poverty alleviation. Previous programs and activities of the Government resulted to almost 100% barangay electrification, with only six (6) barangays out of the total of forty one thousand nine hundred seventy four (41,974) potential barangays remaining as unenergized due to geographical and security reasons. The current program of the Government aims to attain 90% household electrification by 2017.

Status of Household Electrification

As of December 31 2015, the household electrification level of the country is estimated at 89.62 percent based on the major updates provided by the NEA and the 120 ECs. Said level corresponds to 19.99 million energized HHs out of the estimated total HH population of 22.31 million (see Table 34).

Table 34. Household Electrification Level as of December 2015

Distribution Utility	Household		
	Total Household Population (2015)	Served	%
Electric Cooperatives	13,081,400	11,174,080	85.42%
MERALCO	6,958,185	6,768,173	97.27%
Other PIOUs/LGU Owned Utilities	2,270,497	2,052,177	90.38%
Total	**22,310,082**	**19,994,430**	**89.62%**

Source: DOE

This means that the Government has surpassed its original target of 86.3% which is supposedly to be attained by end of 2016 as specified in the Philippine Development Plan 2011-2016 (as revised).

The Household Electrification Development Plan (HEDP) 2015-2017

Based on the above HH electrification level, it is expected that the Government will definitely attain the 90 percent level by end of 2017 as specified under the HEDP. At the meantime, the Government shall continue all the existing programs and activities specified in the HEDP for the attainment of the said target by end of 2017 which include both on-grid and off-grid electrification approaches in providing electricity services.

Thus, the present sectoral challenge is on how to define the next phase of the total electrification program beyond 2017. The Government will have to deal with the most remote areas and households in the countryside which are most difficult to undertake. There is also a need to establish a clear-cut policy for slum electrification that addresses the issue of the informal settlers both in rural and urban areas of the country.

In the aspect of electrification planning, DUs and ECs will have to take more the pro-active stance in assessing the potential impacts of the household electrification in their respective plans such as increased demand, potential overloading of the distribution facilities and key performance parameters. For off-grid electrification, there is a need to undertake primary data gathering and detailed assessment of the unelectrified remote areas of the country in order to develop actual off-grid electrification projects using

renewable energy systems (solar PV systems, micro-hydro, etc.) and even hybrid diesel/renewable systems as least-cost technology solutions in said areas.

To meet these new challenges, the DOE will have to further strengthen the Household Unified Strategic Electrification (HOUSE) Team composed of concerned DOE line units, NEA, NPC-SPUG, DILG, DOF, DBM, and representatives from DUs and ECs. The next tasks of the HOUSE Team shall include the review the results of the existing programs under the HEDP, the development of specific recommendations in addressing the current issues in the household electrification, and the formulation of the new targets and programs beyond 2017.

Recently, the DOE has received a funding support of about 60 Million Euros from the European Union to implement the Project entitled "Access to Sustainable Energy Programme" (ASEP). The Technical Assistance component of the ASEP will undertake capacity building of the DOE and the HOUSE Team in updating the rural and missionary electrification programs including the development of a detailed off-grid electrification program beyond 2017.

On-going and Planned Programs and Activities

Consistent with HEDP, following are the different projects and activities that directly support the HH electrification goal of the Government, namely:

Grid Electrifrication

1. NEA's Sitio Electrification Program (SEP)

This refers to NEA's program of attaining 100 percent sitio electrification in the country while providing housewiring and connection assistance to eligible HHs. Based on its original target are of thirty two thousand four hundred forty one (32,441) unelectrified sitios in 2011, SEP has energized a total thirty two thousand six hundred eighty eight (32,688) sitios as of March 31, 2016. Table 35 shows the status of NEA-SEP accomplishments. In 2016 alone, NEA through its electric cooperatives energized a total of one thousand eighty hundred fourteen (1,814) sitios**.**

Table 35. Status of NEA-SEP Program as of March 31, 2016

YEAR	TARGETS	ACCOMPLISHMENTS			
		FOR THE YEAR	CUMULATIVE TOTAL	PROJECT COST (PHP) /2	HOUSEHOLD CONNECTION FOR THE YEAR /1
BASELINE NUMBER OF UNENERGIZED SITIOS (June 2011)				**32,441 Sitios**	
Oct-Dec 2011	1,410	1,520	1,520	754.83	45,600
2012	6,007	6,163	7,683	3,136.55	184,890
2013	5,831	5,263	12,946	3,058.24	315,780
2014	7,073	7,567	20,513	4,437.15	454,020
2015	7,092	10,361	30,874	7,081.58	621,660
Jan-March 2016	1,567	1,814	**32,688**		

Source: NEA PRESIDENT AQUINO's PRIORITY PROJECT SITIO ELECTRIFICATION PROGRAM as of March 31, 2016
1/ Household connection for the per Sitios is assumed 30HH for years 2011-2012 and 60HH for years 2013-2016
2/ Average Cost Per Sitio for 2011-2015 : Php 598,184.78

2. NEA's Barangay Line Enhancement Program

This aims to rehabilitate those barangays previously energized by off-grid solutions but deemed unsustainable. To enhance the program, it shall only cover those off-grid barangays that are already economically feasible for distribution line extension. NEA shall assist in recovering the existing off-grid electrification facilities still owned by the Government for reconfiguration and transfer to other far-flung areas that can be best served by off-gid solutions. Status of BLEP activities is shown in table below.

Table 36. Status of NEA-BLEP Program as of August 2015

YEAR	TARGETS	ACCOMPLISHMENTS			
		FOR THE YEAR	CUMULATIVE TOTAL	PROJECT COST (PHP M) /2	HOUSEHOLD CONNECTION FOR THE YEAR /1
BASELINE NUMBER OF BARANGAYS FOR ENHANCEMENT				**1,030 Sitios**	
2011-2012	227	227	227	478.17	45,600
2013	118	118	345	342.87	184,890
2014	181	181	526	638.56	315,780
2015	250	93	619	354.92	454,020
TOTAL 2011-2015	**619**			1,814.53	
2016	**254**	411	**1030**	1,204.80	94,020

Source: NEA 2016 Budget Presentation
/1 Household connection for the per Barangay is assumed 30HH
/2 Average Cost per barangay for years 2011-2015: Php2,931,384.49

3. Rationalization of Implementation of Energy Regulations 1-94 Electrification Funds

Under this concept, DOE shall effectively administer ER 1-94 EF to support the total electrification of the identified host barangays and municipalities consistent with the policies set forth under the guidelines. This aims of bringing electricity to all households in the communities hosting the power generating facilities and/or energy resources following the radiating order, prioritizing the host cities/municipalities.

For the year 2015, the DOE have conducted focus group discussion activity in three (3) host municipalities in Luzon, 3 in Visayas and 3 in Mindanao with the concern distribution utilities, Local Government Unit of Host Municipalities of Oriental Mindoro, Cotabato, Iloilo, and Pampanga and the concern generation companies. Table 37 shows the initially identified target beneficiaries' of electrification project that will contribute in the total electrification of the host communities.

Table 37. Host Communities Initially Profiled under Rationalization Program

Concern DU	Province	Host City/Municipality
PENELCO	Bataan	Limay
PELCO II	Pamapanga	Mabalacat
ORMECO	Oriental Mindoro	Pinamalayan
ILECO II	Iloilo	Dingle
BOHECO I	Bohol	Maribojoc
COTELCO	Cotabato	Kidapawan
ILPI	Lanao Del Norte	Iligan
DANECO	Compostella Valley	Maco
CEPALCO	Misamis Oriental	Cagayan De Oro

Source: DOE

Respective distribution utilities will then submit to the Department of corresponding project proposal for DOE's funding approval under the ER 1-94 Electrification Fund.

4. Nationwide Intensification of Household Electrification (NIHE) Program

Approved in 2014, the NIHE project is 3-year program that aims to implement measures and grant assistance to intensify household electrification. Under NIHE, DUs are encouraged to adopt more pro-active and innovative marketing strategies to fast-track electrification of the remaining unelectrified households both in rural and urban areas of the country. Technical assistance to be undertaken by the NIHE Project include streamlining of connection process, LGU-DU partnership for assistance in connection permits, and policy support to address the issue of slum electrification and flying connections, among others.

Under NIHE 2015 Program a total of 30,512HH Beneficiaries are approved and expected to be implemented and completed this year by the 22 distribution utilities. The DOE is also targeting to implement a total of 173,500 HH for 2016 and 185,000 HH for 2017.

Table 38. 2015 NIHE Program

Funding	Target HH Beneficiary	Approved No. of HH Beneficiary	ACCOMPLISHMENTS			Target Year of Completion
			Project Implementor	PROJECT COST (PHP M)	STATUS OF IMPLEMENTATION	
2015 NIHE	25,000 HHs	Luzon: **3,693** Visayas: **19,421** Mindanao: **7,398** **Total: 30,512 HHs**	Luzon: **5 ECs** Visayas: **10 ECs and 1 PIOU** Mindanao: **6 Ecs** **Total: 22 DUs**	27.742	For Fund Release upon submission of results of Bidding and other pertinent Documents	2016
2016 NIHE	172,500 HHs	Luzon: **2,023** Visayas: **12,717** Mindanao: **10,325** **SubTotal: 25,065 HHs**	Luzon: 3 ECs Visayas: 1 EC Mindanao: 1 EC **Total: 5 ECs**	93.493	For MOA Signing	2017
		Indicative/Committed by DUs Luzon: **20,484** Visayas: **30,154** Mindanao: **47,449** **SubTotal: 98,087 HHs**	Luzon: 3 ECs Visayas: 3 ECs Mindanao: 8 Ecs **Total: 14 Dus**	367.826	Waiting for submission of complete documents to DOE	2017
		Other Target: 53,450 HHs	19 more ECs	200.487		
2017 NIHE	173,000 HHs	Luzon: **42,500** Visayas: **34,000** Mindanao: **96,500**	Luzon: **5 ECs** Visayas: **4 ECs** Mindanao: **11 ECs** **Total: 20 Dus**	27.742	For Submission of Proposals to DOE	2017

Source: DOE

Off-Grid Electrification

1. Solar PV Mainstreaming Project

Based on the pilot implementation of the Project in 2010-2014 which yielded positive results, the DOE pursued the scaled up implementation of the same through the "Philippines: Access to Sustainable Energy Program (ASEP)" with funding assistance from the European Union. The Philippine Government entered into a Financing Agreement with the European Union in December 2015, to support the country's goal of increasing access for the poor to affordable, disaster resilieint energy, to generate more electricity from renewable energy and increase the efficiency of energy use. One specific intervention of the Program includes the investment grant for Solar Home Systems (SHS), as well as technical assistance and consultancy services to the Department, Electric Cooperatives (ECs) and household beneficiaries in the roll out implementation of the Project. The ASEP will to roll-out the implementation of PV Mainstreaming to at least 39,214 households through 30Wp and 50Wp SHS units in the next four (4) years.

As a start-up the ASEP-PVM shall engage an advisor to develop the details of the transaction including the process, documentation structure, bidding criteria, service specifications, among other aspects of the transaction. The DOE with the assistance of the National Electrification Administration shall aggressively market this PVM project with the ECs particularly to those provinces which have the lowest level of unenergized households. ,

Meanwhile, the ERC scheduled another Public Consultation held at their office last 25 November 2015 which resulted to the revision of the draft Rules. PHILRECA officially submitted to ERC the revised draft per ERC comments last 13 April 2016.

2. Qualified Third Party (QTP) Approach

In March 2016, the ERC conducted public hearings for the three (3) QTP projects of Powersource Philippines, Inc. (PSPI), in the following areas namely, (a) Barangay Liminangcong, Municipality of Taytay, Palawan; (b) Barangay Candawaga and Culasian, Municipality of Rizal, Palawan; and, (3) Balut Island covering eight (8) barangays, Municipality of Saranggani, Davao Occidental. In these public hearings, PSPI sought the Commission's granting the former with the following: (a) authority to operate as QTP under the ERC QTP Rules; (b) approval of its QTP Service Contract including the Full Cost Recovery Rate (FCRR); (c) authority to charge its customers with the tariff equivalent to the ERC approved retail rate of the ECs having franchise over these areas; (d) permission to recover from the UC-ME the subsidy which is the difference from the FCRR and the rate being charged by the franchising ECs to its customers; and lastly, (e) directing NPC to release the subsidy to PSPI in accordance with the terms set forth in the QTP Service Contract.

As a result of the public hearings, ERC directed PSPI to submit supporting documents to further prove its planned operation of the generating and distribution facilities as well as the basis for the computation of its FCRR and the requested subsidy from the UC-ME to facilitate its review and eventually, the granting of its petition.

Meanwhile, ERC is still to issue its Order/Decision to the petition filed by another QTP player, Sabang Renewable Energy Corporation (SREC) in April 2015, which intends to put up and operate a solar PV+battery+diesel hybrid systems in Brgy. Cabayugan, Puerto Princesa. Simlarly, the petition calls for ERC's issuance of authority to SREC to operate as QTP in the area, approval of its FCRR and tariff to be charged to the consumers including the equivalent subsidy to be sourced from the UC-ME.

Meanwhile, the two (2) QTP Projects of PSPI continue to operate, details of which are as follows:

a. Rio Tuba QTP Project in Bataraza, Palawan

For the reporting period, the average monthly net electricity generation reached 272,863 kWh and the average monthly electricity sales is 246,113 kWh, indicating an increase of about 4.13% & 4.49% respectively as compared with the last year's report (for 6 months period from March 2015 to August 2015) electricity generation and sales. To date, overall installed capacity is 1.10MW covering the highest recorded peak demand of 660kW. The average system loss is 9.69%.

Out of 2,500 potential households as of February 2016, 1,825 are connected to the mini grid system reaching 72% level of household electrification in the island. Also, PSPI has programmed line extensions to the sitios to reach the unelectrified households in line with the Government's Program of 90% household electrification by Year 2017.

The testing and commissioning of the new biomass gasifier was completed last February 2016 operating with a dependable capacity of 10 kW. PSPI is still modifying certain configuration on the gasifier to meet the target output of 50 kW.

PSPI has already completed the following activities, namely: 1) Rehabilitation of transmission Line along Macafam – Tagdalungon; 2) additional 1 x 350 kW unit commissioned. With this, relocation of secondary lines post along Macadam road due to the concreting of road pavement and line extension to Tuka-Angri is on going.

PSPI is now in the process of submitting the requirements for the issuance of COC by ERC in order to provide the full load operation of the system.

b. Malapascua QTP Project in Malapascua Island, Logon, DaanBantayan, Cebu

For the reporting period, the average net electricity generation was 139,599 kWh per month and the average electricity sales was 123,387kWh. There was a significant increase of about 5.38% in generation and 6.80% in sales showing the continuing growth of demand in the area. The installed capacity is 1.05 MW. Peak demand is 440kW and the average system loss is 6.76%.

For the reporting period, additional fifty six (56) households were connected to the minigrid, a 5.69% increase in the past six (6) months. Based on the barangay records, out of 1,208 households in the island, 984 are connected to the mini grid system, achieving 81.64% electrification level. The remaining two hundred twenty four (224) households are targeted to the connected to the grid within the next 2-3 years.

PSPI continues to implement the Provisional Authority to operate and applicable rates approved last March 2014. In March 2015, the ERC issued an Order extending the Provisional Authority granted until revoked or made permanent by the Commission. The provisional approval of Full Cost Recovery Rate (FCRR) which is all collected from the end-users is in the amount of Php24.9779.

c. Liminangcong in Taytay and Candawaga/Culasian in Rizal, Palawan

The DOE also posted new areas waived by the ECs in favor of the private sector. These are the sixty six (66) sitios in the Province of Apayao under the franchise area of Cagayan II Electric Cooperative (CAGELCO II) which was posted last January 2016.

Only one firm expressed interest however, was found not qualified to perform as QTP. Camarines Sur IV Electric Cooperative (CASURECO IV) also issued its Board Resolution waiving Lahuy Island comprising four (4) barangays in the Municipality of Caramoan and Quinasalag Island with eight (8) barangays in the Municipality of Garchitorena. Pursuant to the DOE's QTP Qualification and Participation Guidelines, if no firms are interested in these unviable areas, DOE shall include the areas in its other missionary electrification programs.

VII. BENEFITS TO HOST COMMUNITIES

Pursuant to Energy Regulations No.1-94 (ER 1-94), as amended, the Generation Company and/or Energy resource developer shall set aside one centavo per kilowatt-hour (P 0.01/kWh) of the total electricity sales as financial benefit for the host communities. Fifty percent of one centavo per kilowatt-hour (P0.005/kWh) is for electrification projects, twenty five percent (P0.0025/kWh) for development and livelihood projects and the remaining twenty five percent (P0.0025/kWh) for reforestation, watershed management, health and/or environment enhancement projects.

From inception of the program, the DOE as fund administrator has already established a total of eight hundred twenty (820) Trust Accounts for Electrification Fund (EF) Development and Livelihood Fund (DLF), Reforestation, Watershed Management, Health and/or Environment Enhancement Fund (RWMHEEF). The number of generation companies engaged with ER 1-94 program has significantly increased this year as a result of the fast growing renewable energy projects invested in the country today.

Since 1994, the financial benefits have accrued to PhP 10.42 Billion from which Php 6.71 Billion was obligated for the implementation of projects. This leaves an available and collectible fund at around 3.71 Billion.

Table 39. Summary of Financial Benefits from inception to April 2016 (In PhP Billion)

Particulars	EF	DLF	RWMHEEF	Total
Accrued Financial Benefit	4.50	2.80	3.12	10.42
Approved	3.32	1.66	1.73	6.71
Available Balance	1.18	1.14	1.39	3.71

Source: DOE

Project Approval

The initial process involved in availing a project is the submission of project proposal with its relevant documents from the Host Local Government Unit (LGU). For electrification program, the concerned Distribution Utility (DU) endorses LGU's electrification project proposal to the DOE. Whereas, non-electrification (DL and RWMHEE) project proposals are being endorsed by the generation company or the energy resource developer to DOE. The latter evaluates and approves all project proposals and subsequently issues Notice to Proceed to the project implementer with the corresponding Memorandum of Agreement for project implementation.

In a given reporting period, the DOE has approved a total amount of Php 50.73 Million for the implementation of electrification projects in various sitios/barangays in the Provinces of Batangas, Pangasinan, Agusan del Norte, Bohol and Nueva Vizcaya. Another Php 80.70 Million were approved for the implementation of sixty one (61) development and livelihood projects in the Provinces of Batangas, Quezon, Oriental Mindoro, Misamis Oriental, Compostella Valley, Saranggani, Bukidnon, Lanao del Sur and Lanao del Norte. While, Php 44.67 Million was approved for forty-six (46) reforestation, watershed management, health and/or environment enhancement projects for implementation in the Provinces of Benguet, Batangas, Quezon, Oriental Mindoro, Lanao del Sur, Lanao del Norte, and Davao City.

Table 40. Project Approval (In PhP Million) November 2015 – April 2016

Fund Source	No. of Approved Projects	Amount (PhP in Million)
Electrification Fund	50 brgys/sitios	50.73
Development and Livelihood Fund	43	80.70
Reforestation, Watershed Management, Health and/or Environment Enhancement Fund	42	103.56

Fund Releases

The preparation and processing of fund release for the project shall commence once the proponent has submitted complete bidding documents in accordance to Republic Act of 9184 or otherwise known as the Government Procurement Reform Act. A bank certificate is also required from the proponent as proof of account separately and exclusively opened for ER 1-94 projects.

Several fund releases were executed for the concerned DU's and Host LGU's for the implementation of their respective projects. Accordingly, the DOE has disbursed PhP34.36 Million for electrification of various sitios in the Provinces of La Union, Albay and Pangasinan. Additional PhP30.04 Million was disbursed for the implementation of twenty (20) various development projects in the Provinces of Ifugao, Isabela, Batangas, Laguna, Albay, Quezon, Leyte, Pangasinan, Bukidnon, Lanao del Sur and Lanao del Norte. Lastly, PhP20.76 Million was disbursed for nineteen (19) reforestation, health and environment enhancement projects to be implemented in the same Provinces as mentioned earlier.

Table 41. Fund Release (In PhP Million) November 2015 – April 2016

Fund Source	No. of Projects	Amount (PhP in Million)
Electrification Fund	7	34.36
Development and Livelihood Fund	20	30.04
Reforestation, Watershed Management, Health and/or Environment Enhancement Fund	19	20.76

Source: DOE-Treasury

Financial Audit and Technical Inspection

Consistent with the auditing rules and procedures under ER 1-94 program, the DOE-Internal Audit conducts a post-audit for the liquidation of project funds. In a given reporting period, the Department has audited and validated Php22.44 Million for four (4) electrification projects in various sitios implemented by CEBECO I, PANELCO III, MERALCO and NORECO II. Whereas, Twenty-nine (29) DL/RWMHEE projects located in the Provinces of Isabela, Pangasinan, Quezon, Albay, Laguna, Bulacan, Bukidnon, Compostela Valley, Lanao del Norte and Lanao del Sur were also validated amounting to Php25.56 Million.

Table 42. Financial Audit (In PhP Million) November 2015 – April 2016

Fund Source	No. of Projects	Amount (PhP in Million)
Electrification Fund	4	22.44
Development and Livelihood Fund	14	17.48
Reforestation, Watershed Management, Health and/or Environment Enhancement Fund	15	18.08

Source: DOE-Internal Audit

The DOE together with its partners, LGU and Generation Company for non-electrification projects, and Electric Cooperatives for electrification projects, shall conduct a joint technical inspection and evaluation to assess the quality, value and impact of projects to the community. Resulting from the project implementation was the inspection of Electrification projects covering fifty three (53) project areas in the Province of Bukidnon under the franchise area of FIBECO.

Moreover, thirty five (35) non-electrification projects were inspected in the Provinces of Batangas, Isabela, Nueva Vizcaya, Benguet, Leyte, Ifugao, Lanao del Norte, Lanao del Sur.

In the event of unjustified disbursement of funds and non-completion or delay in the implementation of projects, the DOE has to defer the succeeding releases of project funds to the implementer. This is essential to ensure proper and efficient disbursement of funds.

Beyond providing electricity, the DOE is committed to provide projects with long lasting social impact to build a better and brighter future for the people especially the communities hosting the Generation Facility through the Energy Regulations No. 1-94 program. Below are few of the selected projects implemented during the given reporting period.

Figure 28. DL and RWMHEE Projects in the Provinces of Benguet, Ifugao, Bukidnon, Leyte and Lanao del Sur

ANNEXES

Annex 1. TransCo Inspection Report Based on Concession Agreement as of 30 April 2016

No.	Inspection Report No.	Location	Name of Project/ Transmission Facilities	Inspection Date
LUZON				
1	SLR-D1-15-50	DISTRICT 1 South Luzon	Dasmariñas, Biñan, Muntinlupa, Las Piñas, Batangas, Ternate, Calaca & Rosario Substations, Bolbok, Cuenca & Taal Load End Substation	November 9-13, 2015
2	SL-MTDA-15-53	South Luzon	Laguna MTD-A	November 23-27, 2015
3	NL-MTDA-15-56	North Luzon	MTD-A Office in San Fernando, La Union	December 7-11, 2015
4	NLR-D3-16-02	District 3 North Luzon	San Manuel, Nagsaag, Bolo & Labrador Substations, and Mangaldan Load End SS	Jan. 11-15, 2016
5	NL-MB-16-08	North Luzon	North Luzon MTD-B Office in Mexico	Feb. 15-19, 2016
6	NLR-D7-16-09	District 7 North Luzon	San Jose, Taytay, Malaya, and Doña Imelda Substations and Quezon Switching Station	Feb. 15-19, 2016
7	NLR-PR-16-02	North Luzon	1. San Manuel S/S (Binga-San Manuel Project,Stage 2) 2. Nagsaag EHV S/S (LSEP4) 3. Balingueo (Sta.Barbara) S/S Project	Feb. 22-24, 2016
8	SLR-D2-16-12	District 2 South Luzon	Tayabas, Lumban, Gumaca & Bay Substations, San Juan Switchyard, Famy, Pitogo, Caliraya, Los Baños, Calamba, Lopez & Mulanay Load End Substations, and Calamba, Lumban & Maunong Repeater Stations	Mar. 14-18, 2016
9	SLR-RS-16-14	South Luzon	Calapan, Pinamalayan and Dela Paz Repeater Stations	Mar. 28- Apr. 1, 2016
10	NLR-D5-16-15	District 5 North Luzon	Hermosa, Limay, BCCPP, Olongapo, Botolan Substations, Subic (Hanjin) and SBMA Switching Station	Mar. 28- Apr. 1, 2016
11	NLR-D1-16-17	District 1 North Luzon	Bauang, Bacnotan, San Esteban, Bantay, Currimao, and Laoag Substations	Apr. 11-15, 2016
VISAYAS				
1	VIS-MB-15-51	Visayas	Bacolod MTD-B	November 9-13, 2015
2	VIS-AC-15-52	Visayas	Leyte ACC, Palompon Repeater Station, and Bantigue (Isabel)	November 23-27, 2015
3	VIS-AC-15-54	Visayas	Panay ACC and Jordan (Guimaras) Repeater Station	December 7-11, 2015
4	VIS-RS-16-01	Visayas	Busay, Borbon (Muagao) & Compostela Repeater Stations	Jan. 11-15, 2016
5	VIS-MA-16-06	Visayas	Visayas MTD-A Office in Cebu City	Jan. 25-29, 2016
6	VIS-PR-16-01	Visayas	Ormoc-Babatngon 138 kV Transmission Project (T/L & S/S Portions)	Jan. 26-29, 2016
7	VIS-AC-16-07	Visayas	Bohol ACC, Buenavista & Loon Repeater Stations	Feb. 15-19, 2016
8	VIS-D2-16-10	District 2 Visayas	Cebu, Naga, Colon, Quiot, Toledo, Calong-calong, Ubay, Compostela, Daanbantayan, Corella & Tagbilaran S/S, Mandaue & Mactan GIS, Pajo, Medellin, Garcia Hernandez, Sogod, Danao, Medellin & Sibonga Load End S/S, Garcia Hernandez & Trinidad CBS, and Daanbantayan & Samboan CTS	Feb. 29 - Mar. 4, 2016
9	VIS-D4-16-13	District 4 Visayas	Sta. Barbara, Barotac Viejo, Dingle, Panit-an and Nabas Substations and San Juan Cable Terminal Station	Mar. 28- Apr. 1, 2016
10	VIS-D3-16-16	District 3 Visayas	Bacolod, Cadiz, Kabankalan, Sipalay, Amlan & Mabinay S/S, Victorias Capacitor Bank Station and Tomonton & Pondol CTS	Apr. 11-15, 2016
11	VIS-RS-16-18	Visayas	Ivisan and Tangalan (Jawili) Repeater Stations	Apr. 25-29, 2016
12	VIS-D1-16-19	District 1 Visayas	Ormoc, Maasin, Tabango, Babatngon, Calbayog, Paranas & Sta. Rita SS, Guadalupe CTS, Hilongos PCB Stn, Baybay LES, Albuera Electrode Station, Tolosa Capacitor Bank Station and Ormoc HVDC Station	Apr. 25-29, 2016
MINDANAO				
1	MIN-D3-15-49	District 3 Mindanao	Cagayan De Oro, Kibawe, Maramag & Pulangi, Tagoloan, Villanueva and Jasaan (Aplaya)	November 9-13, 2015
2	MIN-AC-15-55	Mindanao	Butuan ACC & Carmen (Rojales) Repeater Station	December 7-11, 2015
3	MIN-D2-16-03	District 2 Mindanao	Balo-i, Iligan, Agus 6/7 & Lugait Substations and Agus 5 Switchyard	Jan. 11-15, 2016
4	MIN-RS-16-04	Mindanao	Ozamiz, Lopez Jaena, and Dinas Repeater Stations	Jan. 25-29, 2016
5	MIN-D5-16-05	District 5 Mindanao	Davao, Nabunturan, Maco, Matanao, Kidapawan, Bunawan and Toril Substations	Jan. 25-29, 2016
6	MIN-D3-16-11	District 3 Mindanao	Cagayan De Oro, Kibawe, Maramag & Pulangi, Tagoloan, Villanueva and Jasaan (Aplaya) Substations	Mar. 14-18, 2016
7	MIN-PR-16-03	Mindanao	Agus 6 Switchyard Upgrading/Rehabilitation Project	Mar. 15-18, 2016

Annex 2. TransCo Summary of Inspection Report for Projects Under Construction (PUC) as of 30 April 2016

No.	Observation Report No.	Inspection Date/ Area	Description of Observation (TransCo)	Action Plan / Remarks (NGCP)
LUZON				
1	(NLR-PR-16-02) OR-P-16-0021	February 22, 2016/ San Manuel SS & Nagsaag EHV SS Project	The original target completion of November 14, 2014 for Nagsaag S/S (Luzon S/S Expansion Project 4, LSEP4) & San Manuel S/S (Binga-San Manuel 230 kV T/L Project 2, BSMTP2) Projects was not attained.	The project was hampered by late mobilization of the contractor and submission of drawings. NGCP instructed the contractor to exert all effort for the immediate completion of the project.
2	OR-P-16-0022	February 22, 2016/ San Manuel SS & Nagsaag EHV SS Project	The Contract (Sp12.BSMTP2. Lt-0103) for Nagsaag S/S (LSEP4) & San Manuel S/S (BSMTP2) Projects has been expired since November 14, 2014 and no Contract Time Extension (CTE) was issued.	The submitted CTE (proposed) was denied by NGCP. The contractor will be charged with Liquidated Damages (LD).
3	OR-P-16-0023	February 22, 2016/ San Manuel SS & Nagsaag EHV SS Project	No copies of Factory Acceptance Test (FAT)/ Certificate of Inspection of substation equipment for San Manuel S/S (BSMTP2) & Nagsaag S/S (LSEP4) were presented/provided.	For submission c/o QSMD.
4	OR-P-16-0024	February 22, 2016/ San Manuel SS & Nagsaag EHV SS Project	One (1) out of 4 sets 69 kV gantry-mounted DS is not yet installed at Nagsaag S/S (LSEP4).	To be installed once shutdown schedule has been granted.
5	OR-P-16-0025	February 22, 2016/ San Manuel SS & Nagsaag EHV SS Project	Three (3) out of 3 units of 69 kV VT is not yet installed at Nagsaag S/S (LSEP4).	To be installed once shutdown schedule has been granted.
6	OR-P-16-0026	February 22, 2016/ San Manuel SS & Nagsaag EHV SS Project	The installation of the following Fiber Optic Communication System at Nagsaag S/S (LSEP4) has not yet started: a. Optical Distribution Frame b. Fiber Optic Approach Cable	For coordination with SO Telecommunication.
7	OR-P-16-0027	February 22, 2016/ San Manuel SS & Nagsaag EHV SS Project	The reconfiguration/integration & modification of existing NARI Substation Automation System (SAS) at Nagsaag S/S (LSEP4) has not yet started.	For coordination with NARI.
8	OR-P-16-0028	February 22, 2016/ San Manuel SS & Nagsaag EHV SS Project	The modification of the existing Protection Panel at Nagsaag S/S (LSEP4) has not yet started.	For coordination with NARI.
9	OR-P-16-0029	February 22, 2016/ San Manuel SS & Nagsaag EHV SS Project	The installation of Deluge Water Spray System for the 50 MVA Transformer (T03) at Nagsaag S/S (LSEP4) has not yet completed.	On-going installation.
10	OR-P-16-0030	February 22, 2016/ San Manuel SS & Nagsaag EHV SS Project	Two (2) out of 2 sets of 230 kV PCB (live tank) at Bays 81 & 82 in San Manuel S/S (BSMTP2) is not yet installed	Awaiting for the schedule of shutdown of NARI.
11	OR-P-16-0031	February 22, 2016/ San Manuel SS & Nagsaag EHV SS Project	Five (5) out of 6 sets of 230 kV DS at Bays 81 & 82 in San Manuel S/S (BSMTP2) has not yet installed	Awaiting for the schedule of shutdown of NARI.
12	OR-P-16-0032	February 22, 2016/ San Manuel SS & Nagsaag EHV SS Project	Twelve (12) out of 12 sets of 230 kV CT at Bays 81 & 82 in San Manuel S/S (BSMTP2) are not yet installed	Awaiting for the schedule of shutdown of NARI.
13	OR-P-16-0033	February 22, 2016/ San Manuel SS & Nagsaag EHV SS Project	Three (3) out of 6 sets of 230 kV VT at Bays 81 & 82 in San Manuel S/S (BSMTP2) are not yet installed	Awaiting for the schedule of shutdown of NARI.
14	OR-P-16-0034	February 22, 2016/ San Manuel SS & Nagsaag EHV SS Project	Three (3) out of 6 sets of 192 kV SA at Bays 81 & 82 in San Manuel S/S (BSMTP2) are not yet installed	Awaiting for the schedule of shutdown of NARI.
15	OR-P-16-0035	February 22, 2016/ San Manuel SS & Nagsaag EHV SS Project	The dismantling of 2 out of 2 sets of 230 kV PCB at Bays 81 & 82 in San Manuel 230 kV Switchyard (BSMTP2) have not yet started.	To be dismantled once shutdown schedule has been granted.
16	OR-P-16-0036	February 22, 2016/ San Manuel SS & Nagsaag EHV SS Project	The dismantling of 5 out of 6 230 kV DS at Bays 81 & 82 in San Manuel 230 kV Switchyard (BSMTP2) have not yet started.	To be dismantled once shutdown schedule has been granted.
17	OR-P-16-0037	February 22, 2016/ San Manuel SS & Nagsaag EHV SS Project	The dismantling of 12 out of 12 sets of 230 kV CT at Bays 81 & 82 in San Manuel S/S (BSMTP2) have not yet started.	To be dismantled once shutdown schedule has been granted.

Annex 2. TransCo Summary of Inspection Report for Projects Under Construction (PUC) as of 30 April 2016

No.	Observation Report No.	Inspection Date/ Area	Description of Observation (TransCo)	Action Plan / Remarks (NGCP)
18	OR-P-16-0038	February 22, 2016/ San Manuel SS & Nagsaag EHV SS Project	The dismantling of 3 out of 6 sets of 230 kV VT at Bay 82 in San Manuel S/S (BSMTP2) have not yet started.	To be dismantled once shutdown schedule has been granted.
19	OR-P-16-0039	February 22, 2016/ San Manuel SS & Nagsaag EHV SS Project	The dismantling of 3 out of 6 sets of 230 kV SA at Bay 82 in San Manuel S/S (BSMTP2) have not yet started.	To be dismantled once shutdown schedule has been granted.
20	OR-P-16-0040	February 22, 2016/ San Manuel SS & Nagsaag EHV SS Project	The installation of Marshalling Kiosk at San Manuel S/S (BSMTP2) has not yet completed.	Foundation works already completed. For installation.
21	OR-P-16-0041	February 23-24, 2016/ Balingueo (Sta. Barbara) SS Project	The contractor for the Balingueo S/S failed to complete the project on the original completion date of September 01, 2015.	The contractor already submitted seven (7) Contract Time Extensions (CTE) due to problems encountered during the implementation of the project.
22	OR-P-16-0042	February 23-24, 2016/ Balingueo (Sta. Barbara) SS Project	The Balingueo S/S Project has no approved revised Implementation Schedule (IS).	The revised IS is dependent with the approval of the proposed CTEs.
23	OR-P-16-0043	February 23-24, 2016/ Balingueo (Sta. Barbara) SS Project	Two (2) units of Sentry Towers at the Balingueo S/S were not yet constructed/erected.	For construction/erection.
24	OR-P-16-0044	February 23-24, 2016/ Balingueo (Sta. Barbara) SS Project	The Control Building at the Balingueo S/S was not yet fully completed.	Finishing works on-going.
25	OR-P-16-0045	February 23-24, 2016/ Balingueo (Sta. Barbara) SS Project	The construction of Genset House at the Balingueo S/S was not yet completed.	Finishing works on-going.
26	OR-P-16-0046	February 23-24, 2016/ Balingueo (Sta. Barbara) SS Project	The construction of Pumphouse at the Balingueo S/S was not yet completed.	Finishing works on-going.
27	OR-P-16-0047	February 23-24, 2016/ Balingueo (Sta. Barbara) SS Project	The construction of Auxiliary Building at the Balingueo S/S was not yet completed. Finishing	Finishing works on-going.
28	OR-P-16-0048	February 23-24, 2016/ Balingueo (Sta. Barbara) SS Project	The construction of 2-storey Guardhouse/Security Office, at the Balingueo S/S was not yet fully completed.	Finishing works on-going.
29	OR-P-16-0049	February 23-24, 2016/ Balingueo (Sta. Barbara) SS Project	The construction of Lineman's Quarters at the Balingueo S/S was not yet fully completed.	Finishing works on-going.
30	OR-P-16-0050	February 23-24, 2016/ Balingueo (Sta. Barbara) SS Project	The Signages for steel towers at the Balingueo S/S were not yet installed.	For installation.
31	OR-P-16-0051	February 23-24, 2016/ Balingueo (Sta. Barbara) SS Project	The dismantling of the 2-existing steel towers at the Balingueo S/S has not yet started.	Dismantling will be done after the swinging of existing conductor, OHGW & OPGW.
32	OR-P-16-0052	February 23-24, 2016/ Balingueo (Sta. Barbara) SS Project	The swinging of existing conductor, OHGW & OPGW at Balingueo S/S has not yet started.	Awaiting for the shutdown schedule.
33	OR-P-16-0053	February 23-24, 2016/ Balingueo (Sta. Barbara) SS Project	The concrete retaining wall at Balingueo S/S was not constructed.	For deletion from the contract.
34	OR-P-16-0054	February 23-24, 2016/ Balingueo (Sta. Barbara) SS Project	The Station Service Transformer at Balingueo S/S has no catch basin.	To clarify with NGCP-Design Group.
35	(SLR-PR-16-04) OR-P-16-0082	February 12-15, 2016/ Eastern Albay 69 kV TL and Daraga SS Project 4	The contract for the erection/ construction of Daraga-Sto. Domingo 69 kV T/L Project expired on May 28, 2015 and no Contract Time Extension (CTE) was issued by the NGCP.	The proposed CTE was already submitted to Head Office for evaluation.
36	OR-P-16-0083		The revised Implementation Schedule (IS) for Daraga-Sto. Domingo 69 kV T/L Project was not presented.	Awaiting for the approval of the proposed CTE. The revised IS will be prepared based on the approved CTE.
37	OR-P-16-0084		Eleven (11) out of 64 Steel Towers (ST) for the Daraga-Sto. Domingo 69 kV T/L Project are not yet erected.	The 11 un-erected ST are under expropriation cases. Writ of Possession (WOP) for 4 STs were already issued.
38	OR-P-16-0085		The twenty-five (25) Steel Poles (SP) for the Daraga-Sto. Domingo 69 kV T/L Project are not yet erected.	Sixteen (16) SPs were already partially erected. Erection will continue upon the completion of negotiation with the affected landowners.

Annex 2. TransCo Summary of Inspection Report for Projects Under Construction (PUC) as of 30 April 2016

No.	Observation Report No.	Inspection Date/ Area	Description of Observation (TransCo)	Action Plan / Remarks (NGCP)
39	OR-P-16-0086		Clearing of approximately 18.2 km. Right-of-Way (ROW) for ST & SP of the Daraga-Sto. Domingo 69 kV T/L Project is not yet completed.	On-going ROW clearing.
40	OR-P-16-0087		One (1) out of 5 towers sites that need Slope Protections for the Daraga-Sto. Domingo 69 kV T/L Project is not yet constructed.	Construction of the remaining slope protection will start upon the issuance of WOP.
41	OR-P-16-0088		Installation of the following materials for the Daraga-Sto. Domingo 69 kV T/L Project have not yet started: 1) 57 linear kilometer, 336.4 MCM ACSR/AS Power Conductor; 2) 19 linear kilometer 7 No. 5 AWG Aluminum Clad Steel Wire (ACSW) Overhead Ground Wire (OHGW); & 3) 20 linear kilometer Fiber Optic Ground Wire (OPGW).	Three (3) out of the 7 stringing sections were already turned-over to the contractor for stringing.
42	OR-P-16-0089		Certificate of Delivery at Site and Materials Inspection Report for Daraga-Sto. Domingo 69 kV T/L Project are not presented.	For submission.
43	OR-P-16-0090		The Contract for the installation / erection / construction of Daraga & Sto. Domingo S/S expired on April 12, 2015 and no Contract Time Extension (CTE) was issued by the NGCP.	Under evaluation of SLPD-PCAS.
44	OR-P-16-0091		The revised Implementation Schedule (IS) for Daraga & Sto. Domingo LE S/S Project was not presented.	The revised IS will be prepared upon the approval of CTE.
45	OR-P-16-0092		Two (2) of the 2 sets of 69 kV Power Circuit Breaker (PCB), live-tank type, at Bay 51 of Daraga S/S (EATP) is not yet installed.	Steel support already erected & installation of the PCBs will start after the dismantling of the existing take-off tower.
46	OR-P-16-0093		Three (3) of the 4 sets of 69 kV Disconnect Switch (DS) at Bay 51 of Daraga S/S (EATP) are not yet installed.	Steel support already erected & installation of the remaining 69 kV DS will start after the dismantling of the existing take-off tower.
47	OR-P-16-0094		Six (6) out of the 6 units of 69 kV Current Transformer (CT) at Bay 51 of Daraga S/S (EATP) were not yet installed.	Steel support already erected & installation of the CTs will start after the dismantling of the existing take-off tower.
48	OR-P-16-0095		Six (6) of 13.8 kV CT (for billing meter) for Sto. Domingo S/S were already delivered but not yet installed.	For installation.
49	OR-P-16-0096		Six (6) of 13.8 kV VT (for billing meter) were already delivered but not yet installed.	For installation.
50	OR-P-16-0097		The Fuse Disconnect for the Sto. Domingo S/S were already delivered but not yet installed.	For installation.
51	OR-P-16-0098		The Fiber Optic Communication System for the Sto. Domingo S/S were already delivered but not yet installed.	For installation. Dependent with the completion of the T/L portion.
52	OR-P-16-0099		Two (2) units of jet pump for Sto. Domingo S/S are not yet delivered.	For delivery.
53	OR-P-16-0100		Drums of used oil were not stored properly at Sto. Domingo S/S (Ref. DAO-04-36).	For proper storage.
54	OR-P-16-0101		The Contract for the installation / erection / construction of Daraga S/S (LSEP4) expired on January 2, 2015 and no Contract Time Extension (CTE) was issued by the NGCP.	The proposed CTE is under evaluation of SLPD-PCAS.
55	OR-P-16-0102		The revised Implementation Schedule (IS) for Daraga S/S (LSEP4) was not presented.	Awaiting for the approval of the proposed CTE. The revised IS will be prepared based on the approved CTE.

Annex 2. TransCo Summary of Inspection Report for Projects Under Construction (PUC) as of 30 April 2016

No.	Observation Report No.	Inspection Date/ Area	Description of Observation (TransCo)	Action Plan / Remarks (NGCP)
56	OR-P-16-0103		The Factory Acceptance Test (FAT) / Certificate of Test and Inspection (CTI) for Daraga S/S (LSEP4) was not presented.	For submission.
57	OR-P-16-0104		One (1) of the 7 set of 230 kV DS is not yet installed at Bay 84 in Daraga S/S (LSEP4).	Installation will be done after the relocation of the existing PCB.
58	OR-P-16-0105		Two (2) of the 3 sets of 69 kV PCB, live-tank type, are not yet installed at Bay 52 in Daraga S/S (LSEP4).	Steel support already erected & installation of the remaining 69 kV PCBs will start after the dismantling of the existing take-off tower.
VISAYAS				
1	(VIS-PR-16-01) OR-P-16-0001	Jan. 26-29, 2016/ Ormoc-Babatngon 138 kV Transmission Project	Ormoc-Babatngon 138 kV Transmission Line: The Contractor failed to complete the Ormoc-Babatngon T/L Project (OBTLP) on its original completion date of February 26, 2014 due mainly to ROW problems.	The contractor has already submitted a Contract Time Extension (CTE). To date, the proposed CTE is under evaluation at NGCP Head Office.
2	OR-P-16-0002	Jan. 26-29, 2016/ Ormoc-Babatngon 138 kV Transmission Project	Twenty-seven (27) out of the 226 steel structures (tower & diving bus) for the OBTLP are not yet erected.	For resolution of the ROW problems and procurement of 15 steel structures.
3	OR-P-16-0003	Jan. 26-29, 2016/ Ormoc-Babatngon 138 kV Transmission Project	Shortage of fifteen (15) steel structures for the OBTLP.	The contractor has submitted for approval the Variation Order No. 2 to procure the 15 steel structures.
4	OR-P-16-0004	Jan. 26-29, 2016/ Ormoc-Babatngon 138 kV Transmission Project	19.63% of the 1-795 MCM ACSR/AS Power conductor for the OBTLP remains for stringing.	Resume the stringing works upon the resolution of the ROW problems and delivery of lacking steel towers.
5	OR-P-16-0005	Jan. 26-29, 2016/ Ormoc-Babatngon 138 kV Transmission Project	19.63% of OHGW (7 No. 6 AWG ACSW) for the OBTLP remains for stringing.	Resume the stringing works upon the resolution of the ROW problems and delivery of lacking steel towers.
6	OR-P-16-0006	Jan. 26-29, 2016/ Ormoc-Babatngon 138 kV Transmission Project	26.79% of OPGW (36 fibers) for the OBTLP remains for stringing.	Resume the stringing works upon the resolution of the ROW problems and delivery of lacking steel towers.
7	OR-P-16-0007	Jan. 26-29, 2016/ Ormoc-Babatngon 138 kV Transmission Project	Five (5) tower sites and 3 stringing sections of the OBTLP are under expropriation.	Waiting for court decisions.
8	OR-P-16-0008	Jan. 26-29, 2016/ Ormoc-Babatngon 138 kV Transmission Project	Ormoc and Babatngon Substations: In addition to the 450 calendar day contract duration for the Contract No. Sp12.OBTP/ VSRP1&2.Vt-0098, a Contract Time Extension (CTE) of 587 c.d. was approved by the NGCP, moving the project completion date from May 20, 2014 to December 28, 2015. However, the contractor failed to complete the project on the new completion date.	Instructed the contractor to submit/prepare CTE 2.
9	OR-P-16-0009	Jan. 26-29, 2016/ Ormoc-Babatngon 138 kV Transmission Project	Two (2) out of the 8 sets of 69 kV PCB (dead-tank) at Babatngon S/S under the OBTLP, VSRP 1 & 2 are not yet installed.	For installation.
10	OR-P-16-0010	Jan. 26-29, 2016/ Ormoc-Babatngon 138 kV Transmission Project	Four (4) out of the 16 sets of 69 kV DS at Babatngon S/S under the OBTLP, VSRP 1 & 2 are not yet installed.	For installation.
11	OR-P-16-0011	Jan. 26-29, 2016/ Ormoc-Babatngon 138 kV Transmission Project	Three (3) out of the 18 units of 69 kV VT at Babatngon S/S under the OBTLP, VSRP 1 & 2 are not yet installed.	For installation.
12	OR-P-16-0012	Jan. 26-29, 2016/ Ormoc-Babatngon 138 kV Transmission Project	One (1) out of the 2 units of Transformer Wall at Babatngon S/S under the OBTLP, VSRP 1 & 2 has not yet constructed.	For construction.

Annex 2. TransCo Summary of Inspection Report for Projects Under Construction (PUC) as of 30 April 2016

No.	Observation Report No.	Inspection Date/ Area	Description of Observation (TransCo)	Action Plan / Remarks (NGCP)
13	OR-P-16-0013	Jan. 26-29, 2016/ Ormoc-Babatngon 138 kV Transmission Project	The construction of the new Auxiliary Building at Babatngon S/S under the OBTLP, VSRP1 & 2 has not yet completed.	Construction is on-going.
14	OR-P-16-0014	Jan. 26-29, 2016/ Ormoc-Babatngon 138 kV Transmission Project	One (1) out of the 3 sets of 69 kV PCB (dead-tank) at Ormoc S/S under the VSRP 2 are not yet installed.	For installation.
15	OR-P-16-0015	Jan. 26-29, 2016/ Ormoc-Babatngon 138 kV Transmission Project	Three (2-pedestal & 1-gantry) out of the 10 sets of 69 kV DS at Ormoc S/S under the VSRP 2 are not yet installed.	For installation.
16	OR-P-16-0016	Jan. 26-29, 2016/ Ormoc-Babatngon 138 kV Transmission Project	Three (3) out of the 9 units of 230 kV CT at Ormoc S/S under the VSRP 1 were not installed.	For installation.
17	OR-P-16-0017	Jan. 26-29, 2016/ Ormoc-Babatngon 138 kV Transmission Project	Three (3) out of the 6 units of 230 kV VT at Ormoc S/S under the VSRP 1 are not yet installed.	Three (3) existing units of 230 kV VT were not replaced. The 3 uninstalled 230 kV VT were turned-over to PAMGS-NGCP.
18	OR-P-16-0018	Jan. 26-29, 2016/ Ormoc-Babatngon 138 kV Transmission Project	Three (3) out of the 6 units of 196 kV SA at Ormoc S/S under the VSRP 1 were not installed.	Three (3) existing units of 196 kV SA were not replaced. The 3 uninstalled 196 kV SA were turned-over to PAMGS-NGCP.
19	OR-P-16-0019	Jan. 26-29, 2016/ Ormoc-Babatngon 138 kV Transmission Project	The relocation / reinstallation, testing & commissioning of 69 kV VT at Ormoc S/S under the VSRP 2 is not yet completed.	For relocation/reinstallation.
20	OR-P-16-0020	Jan. 26-29, 2016/ Ormoc-Babatngon 138 kV Transmission Project	Need for the provision of a segregation, collection, recycling and disposal mechanism for solid waste under the OBTLP.	On-going compliance.
MINDANAO				
1	(MIN-PR-16-03) OR-P-16-0055	March 15-18, 2016/ Agus 6 S/Y Upgrading/ Rehabilitation	Despite the issuance of Contract Time Extension No. 1 for Agus 6 S/Y Upgrading /Rehabilitation Project which extends the contract expiration from August 9, 2015 to November 27, 2015, still the contractor failed to complete the project.	CTE No. 2 was already submitted on January 30, 2016 for approval.
2	OR-P-16-0056	March 15-18, 2016/ Agus 6 S/Y Upgrading/ Rehabilitation	The revised Implementation Schedule (IS) for Agus 6 S/S Upgrading/Rehabilitation Project was not presented.	The revised IS was submitted for evaluation and approval.
3	OR-P-16-0057	March 15-18, 2016/ Agus 6 S/Y Upgrading/ Rehabilitation	No copy of Factory Acceptance Test (FAT)/Certificate of Test and Inspection (CTI) for Agus 6 S/S Project was provided.	For submission.
4	OR-P-16-0058	March 15-18, 2016/ Agus 6 S/Y Upgrading/ Rehabilitation	No copies of Material Receiving and Inspection Report (MRIR) at Agus 6 S/S were presented.	To formulate procedure for Material Receiving and Inspection.
5	OR-P-16-0059	March 15-18, 2016/ Agus 6 S/Y Upgrading/ Rehabilitation	Bay 51 (69 kV) at Agus 6 S/S is already completed but not yet energized.	For energization.
6	OR-P-16-0060	March 15-18, 2016/ Agus 6 S/Y Upgrading/ Rehabilitation	Bay 52 (69 kV) at Agus 6 S/S is not yet completed.	Completion of Bay 52 is dependent on energization of Bay 51.
7	OR-P-16-0061	March 15-18, 2016/ Agus 6 S/Y Upgrading/ Rehabilitation	Bay 53 (69 kV) at Agus 6 S/S is not yet completed.	Completion of Bay 53 is dependent on energization of Bay 52.
8	OR-P-16-0062	March 15-18, 2016/ Agus 6 S/Y Upgrading/ Rehabilitation	Bay 54 (69 kV) at Agus 6 S/S is not yet completed.	Completion of Bay 54 is dependent on energization of Bay 53.
9	OR-P-16-0063	March 15-18, 2016/ Agus 6 S/Y Upgrading/ Rehabilitation	Bay 55 (69 kV) at Agus 6 S/S is not yet completed.	Completion of Bay 55 is dependent on energization of Bay 54.
10	OR-P-16-0064	March 15-18, 2016/ Agus 6 S/Y Upgrading/ Rehabilitation	Bay 56 (69 kV) at Agus 6 S/S is not yet completed.	Completion of Bay 56 is dependent on energization of Bay 55.
11	OR-P-16-0065	March 15-18, 2016/ Agus 6 S/Y Upgrading/ Rehabilitation	Bay 57 (69 kV) at Agus 6 S/S is not yet completed.	Completion of Bay 57 is dependent on energization of Bay 56.

Annex 2. TransCo Summary of Inspection Report for Projects Under Construction (PUC) as of 30 April 2016

No.	Observation Report No.	Inspection Date/ Area	Description of Observation (TransCo)	Action Plan / Remarks (NGCP)
12	OR-P-16-0066	March 15-18, 2016/ Agus 6 S/Y Upgrading/ Rehabilitation	Bay 73 (138 kV) at Agus 6 S/S is not yet completed.	On-going construction of equipment foundations. Completion/energization of Bay 73 is dependent on shutdown of Unit No. 2 of Agus 7 HEPP.
13	OR-P-16-0067	March 15-18, 2016/ Agus 6 S/Y Upgrading/ Rehabilitation	Bay 72 (138 kV) at Agus 6 S/S is not yet completed.	On-going construction of equipment foundations. Completion/energization of Bay 72 is dependent on shutdown of Unit No. 1 of Agus 7 HEPP.
14	OR-P-16-0068	March 15-18, 2016/ Agus 6 S/Y Upgrading/ Rehabilitation	Bay 71 (138 kV) at Agus 6 S/S is not yet completed.	On-going construction of equipment foundations. Completion/energization of Bay 71 is dependent on shutdown of Unit No. 5 of Agus 6 HEPP.
15	OR-P-16-0069	March 15-18, 2016/ Agus 6 S/Y Upgrading/ Rehabilitation	Erection of 138 kV Gantry Structures at Agus 6 S/S are not yet completed.	On-going installation. Completion is dependent on the shutdown of Unit Nos. 1 & 2 of Agus 7 HEPP, Unit No. 5 of Agus 6 HEPP, Balo-I L1 & L2 and 100 MVA Power Transformer.
16	OR-P-16-0070	March 15-18, 2016/ Agus 6 S/Y Upgrading/ Rehabilitation	Erection of 69 kV Gantry Structures at Agus 6 S/S are not yet completed.	On-going installation. Completion is dependent on the shutdown of Bus No. 1 of 69 kV and 100 MVA Power Transformer.
17	OR-P-16-0071	March 15-18, 2016/ Agus 6 S/Y Upgrading/ Rehabilitation	The 2 sets of existing Station Service Transformers at Agus 6 S/S were not yet relocated to the new Auxiliary Building.	Dependent on the energization of Metalclad Switchgear wherein awaiting the relay setting from the supplier.
18	OR-P-16-0072	March 15-18, 2016/ Agus 6 S/Y Upgrading/ Rehabilitation	69/138 kV power equipment (PCB, CT, VT, SA) are yet to be decommissioned and hauled to a designated area inside the Agus 6 S/S.	Decommissioning is dependent on shutdown of Unit Nos. 1 & 2 of Agus 7 HEPP, Unit No. 6 of Agus 6 HEPP, Balo-I L1 & L2 and 100 MVA Transformer.
19	OR-P-16-0073	March 15-18, 2016/ Agus 6 S/Y Upgrading/ Rehabilitation	The Protection and Control Equipment were not yet delivered at Agus 6 S/S.	For delivery.
20	OR-P-16-0074	March 15-18, 2016/ Agus 6 S/Y Upgrading/ Rehabilitation	Erection of the seven (7) out of the 7 steel poles at Agus 6 S/S were not yet started.	Foundations were already completed. Erection is scheduled after election period on May 2016.
21	OR-P-16-0075	March 15-18, 2016/ Agus 6 S/Y Upgrading/ Rehabilitation	The Fire Protection System is not yet installed at Agus 6 S/S.	Delivered and for installation.
22	OR-P-16-0076	March 15-18, 2016/ Agus 6 S/Y Upgrading/ Rehabilitation	The construction of concrete retaining wall at Agus 6 S/S was not yet completed.	On-going construction.
23	OR-P-16-0077	March 15-18, 2016/ Agus 6 S/Y Upgrading/ Rehabilitation	Sentry Towers at Agus 6 S/S were not yet constructed/erected.	For construction/erection.
24	OR-P-16-0078	March 15-18, 2016/ Agus 6 S/Y Upgrading/ Rehabilitation	Swinging of the existing Transmission Lines at Agus 6 S/S not yet started.	Swinging will start after the 2016 election.
25	OR-P-16-0079	March 15-18, 2016/ Agus 6 S/Y Upgrading/ Rehabilitation	Construction of the Relay Room at Agus 6 S/S is not yet completed.	On-gong construction.
26	OR-P-16-0080	March 15-18, 2016/ Agus 6 S/Y Upgrading/ Rehabilitation	The construction of Pumphouse at Agus 6 S/S has not yet started.	Location of Pumphouse is being used as an access road for construction equipment/materials.
27	OR-P-16-0081	March 15-18, 2016/ Agus 6 S/Y Upgrading/ Rehabilitation	The construction of Ground Water Tank at Agus 6 S/S has not yet started.	Location of Ground Water is being used as an access road for construction equipment/materials.

Source: TransCo

Annex 3. NGCP Related Petitions to ERC as of 30 April 2016

C DECISION/ CASE NO./ DATE OF FILING	NATURE OF PETITION	GROUNDS FOR FILING	STATUS
ERC Case No. 2015-210RC/ December 11, 2015	In the Matter of the Application for the Approval of the Implementation of Capital Expenditures for Calendar Year 2016, with Prayer for the Issuance of Provisional Authority	Immediately ISSUE a provisional Authority to Implement the proposed CAPEX projects; and APPROVE, after notice and hearing, the proposed CAPEX projects.	On April 18 & 25, 2016, the evidentiary hearing was continued and terminated. NGCP is directed to file its FOE within 15 days. (Note: Conference/meeting between TRANSCO and NGCP was set on May 2, 2016.). On April 4, 2016, the jurisdictional, expository & pre-trial were conducted and terminated while the evidentiary was scheduled for continuation on April 18, 2016. On January 28, 2016, the ERC posted on its websites an Order dated January 19, 2016, setting the jurisdictional, expository, pre-trial and evidentiary hearing on April 4, 2016.
ERC Case No. 2015-201RC/ November 10, 2015	Approval of the Conduct of Desktop Study and Hydrographic Survey for the Western Route of the Visayas-Mindanao Interconnection Project (VMIP)	Immediately ISSUE an Order provisionally authorizing the implementation of Visayas-Mindanao Western Route (Cebu Negros-Zamboanga Del Norte) Interconnect Project-Phase I; and APPROVE, after notice and hearing, the Application for the implementation of the Visayas-Mindanao Western Route (Cebu Negros-Zamboanga Del Norte) Interconnection Project – Phase I.	On February 23, 2016, the ERC posted on its website an Order dated January 21, 2016 wherein the Commission Provisionally Approves NGCP's Application. On February 19, 2016, the Expository hearing was conducted. ERC will issue an order to set the date for the Continuation of Evidentiary hearing. On January 28, 2016, the ERC posted on its websites an Order dated January 25, 2016, setting the jurisdictional, expository, pre-trial and evidentiary hearing on February 19, 2016.
ERC Case No. 2015 173RC/ 02 October 2015	In the Matter of the Application for the Approval of an Interim Maximum Annual Revenue for Calendar Year 2016 and an Interim Net Performance Incentive for Calendar Year 2015, with Prayer for the Issuance of Provisional Authority	Immediately issue an Order provisionally approving the collection of the iMAR2016 in the amount of PhP45,287.24Mn and the iNPI2015 of PhP1,029.76Mn, and the SO and MSP Charges beginning the billing period of 26 December 2015 – 25 January 2016. APPROVE, after notice and hearing, the authority to collect the IMAR2016 in the amount of PhP45, 287.24Mn, the iNPI2015 of PhP1, 029.76Mn and the SO and MSP Charges.	On February 10, 2016, a Pre-Trial and Evidentiary Hearing was conducted at the ERC Office, Pasig City. NGCP was directed to file their Formal Formal Offer of Evidence (FOE) within 15 days from the date of last hearing. All interveners are given 15 days from receipt of FOE to file its comments on the said FOE. On February 5, 2016, the ERC issued an order dated January 21, 2016 wherein the Commission APPROVED an iMAR 2016 of PhP41, 653.82 MILLION to be implemented effective its January 2016 billing. However, the Commission deems it appropriate not to include the PIS considering that the Applicant has yet to substantiate the same.
ERC Case No. 2015-136 RC/ 15 July 2015	In the Matter of the Application of the National Grid Corporation of the Philippines of the Approval of Force Majeure (FM) Event Regulated FM Pass Through for Typhoon Glenda in Visayas and Luzon, in Accordance with the Rules for	DECLARE the Typhoon Glenda as Force Majeure Event (FME); GRANT Provisional Approval to implement and bill the FM Pass-Through Amounts to Visayas and Luzon customers starting October 2015 billing month to December 2020 billing month or until such time that the amount incurred is fully recovered; APPROVE the Capital Expenditure (CAPEX) amounting to PhP194,844,662.28 incurred by NGCP for the repair, restoration and rehabilitation of the damaged transmission assets and other related facilities due to the FME Typhoon Glenda as FME;	On March 9-10, 2016, the pre-trial and evidentiary hearing were conducted and terminated. NGCP was directed to submit its Formal Offer of Evidence (FOE). On March 3, 2016, the Expository Presentation for Visayas stakeholders was conducted. On February 23, 2016, the Jurisdictional hearing and Expository Presentation for Luzon stakeholders was conducted.

	Setting Transmission Wheeling Rates, with Prayer for Provisional Authority Philippines of the Approval of Force Majeure (FM) Event Regulated FM Pass Through for Typhoon Glenda in Visayas and Luzon, in Accordance with the Rules for Setting Transmission Wheeling Rates, with Prayer for Provisional Authority	APPROVE, after due notice and hearing, the proposed FM Pass Through Amount to be collected from the Luzon and Visayas customers starting October 2015 billing month to December 2020 billing month oruntil such time that the amount incurred is fully recovered; APPROVED and ALLOW the recovery of the Net Fixed Asset Value of the transmission assets and other related facilities damaged by the FME Typhoon Glenda amounting to PhP13,525,335.28, given that it would have been fully recovered by NGCP if these transmission assets and other related facilities have not been damaged or destroyed by Typhoon Glenda as FME; EXCLUDE the proposed Pass-Through Amount from the side constraint calculation.	On January 7, 2016, the ERC issues an Order setting the jurisdictional hearing, expository presentation, pre-trial and evidentiary hearing .
ERC Case No. 2014 - 163 RC/ November 5, 2014	In the Matter of the Application of the National Grid Corporation of the Philippines for the Approval of Force Majeure (FM) Event Regulation FM Pass Through for Typhoon Yolanda in Accordance with the Rules for Setting Transmission Wheeling Rates, with Prayer for Provisional Authority	GRANT Provisional Approval to implement and bill the FM Pass-Through Amounts to Visayas customers starting January 2015 billing month to December 2020 billing month or until such time that the amount is fully recovered; DECLARE the Typhoon Yolanda as Force Majeure Event (FME); APPROVE the Capital Expenditure (CAPEX) incurred by NGCP for the repair, restoration and rehabilitation of the damaged transmission assets and other related facilities due to the FME Typhoon Yolanda; APPROVE, after due notice and hearing, the proposed FM Pass Through Amount to be collected from the Visayas customers starting January 2015 billing month to December 2020 billing month or until such time that the amount incurred is fully recovered; APPROVE and ALLOW the recovery of the Net Fixed Asset Value of the transmission assets and other related facilities damaged by the FME Typhoon Yolanda in the amount of One Billion One Hundred Fourteen Million Six Hundred Seventy-Seven Thousand Two Hundred Eighty-Two Pesos and 90/100 (PhP1,114,677,282.90) as part of the FM Pass Through Amount given that the said amount would have been fully recovered by NGCP if these transmission assets and other related facilities have not been damaged or destroyed by Typhoon Yolanda as FME; and EXCLUDE the proposed Pass-Through Amount from the side constraint calculation.	On November 16, 2015, the NGCP submitted its additional Compliance (copy of the Right-of-way Expenses and other supporting documents of Purchase Ordersper district in pdf format) .
ERC Case No. 2013-077 RC/ April 17, 2013	In the matter of the Application for the Approval of the Laoag – Bangui 230 kV Transmission Line Project, with Prayer for the Issuance of a Provisional Authority.	ISSUE, immediately upon filing of the Application, a Provisional Approval for the implementation of the Laoag–Bangui 230 kV Transmission Line Project; and APPROVE, after notice and hearing, the Application for the implementation of the Laoag –Bangui 230 kV Transmission Line Project and render judgment making provisional approval permanent.	On April 7, 2016, the ERC posted on its website an order dated March 28, 2016 wherein, the commission decided to grant NGCP's request that the application be considered Withdrawn.

Source: Transco

Annex 4. Private Sector Initiated Power Projects in Luzon (COMMITTED) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION/PROJECT COST	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
COAL	**2,762.00**			
Anda Power Corporation's 82 MW Ciculating Fluidized Bed Coal Fired Power Plant/ Anda Power Corporation/ Brgy. Bundagul, Mabalacat, Pampanga **Cost: US$196,246,837.63**	82	• Asia Pacific Energy Corp was initially issued with ECC and subsequently transferred to ANDA based on the confirmation letter issued by DENR dated 18 February 2014; • Awaiting Certifcate of Compliance; • Financial Arrangement Secured; and • Commencement cf construction: March 2014	June 2015	April 2016
2 X 150 MW SLPGC Coal-Fired Power Plant Phase I/ Southwest Luzon Power Generation Corporation (Project Company)/ Brgy. San Rafael, Calaca, Batangas **Cost for Phase I: PhP20.4B**	300	Financial Arrangement Secured on 24 February 2012 (60% Loan / 40% Equity); GIS approved by NGCP on 8 November 2011; ECC issued on 21 October 2011; Completed Feasibility Study July 2015; Awaiting for the approval of NGCP for the Dasmariñas-Calaca Reinforcement and right of way for the transmission lines; Hydro testing for the boiler - 25 April 2014; Embedded plate for turbine, ready for installation - Unit 1; Complete Seawater Intake - June 2014; On-going installation for panels - Unit II; Expected to complete Coal yard operation by Mid-May 2014; 230 kV Switchyard steel super structure is substantially completed; On-going negotiations with prospective off-takes (DUs and those currently with PSAs and contestable market under Open Access Regime; Site Mobilization / Commencement of Construction on May 2012; Project Progress as of 31 August 2014 - 86.7%; Completed Steam Turbine Bed Plate Locating-Unit II; Completed Boiler Test Hydro Test - Unit II; On-going installaton of CW Piping; On-going Central Control Room Civil Works;Assembly and alignment of turbne on September 2014; On-going erection/assembly of gantry steel structure (beam and columns) and equipment pedestal steel structure; DCS Cabinet Unit 1 to be energized by the end of August 2014; EPC Contract signed March 2012; Groundbreaking - May 2012;	Unit I -June 2015 Unit II - August 2015	Unit 1 - April 2016 Unit 2 - April 2016;
300 MW Limay Power Plant Project Phase I (2x150MW)/ SMC Consolidated Power Corporation/ Brgy. Lamao, Limay, Bataan **Cost: $622.15M / Php25.508B**	300	Topographic and Hydrographic completed; • Soil Investigation completed; • GIS/SIS submitted last 12 July 2013, under review of NGCP; • Facility Study already sent to NGCP for review; • EPC was executed in January 2013; awarded; • ECC was issued on 17 September 2013; • SEC issued last 19 August 2011 • Clearance to Underatake GIS from DOE issued on 13 February 2013; and • Addendum for the re run of SIS was submitted to NGCP last Jan 30, 2015 for review	Unit 1 - 150 MW -Feb 2016 Unit 2 - 150 MW -October 2016	Unit 1 - 150 MW - October 2016 Unit 2 - 150 MW - January 2017

Annex 4. Private Sector Initiated Power Projects in Luzon (COMMITTED) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION/PROJECT COST	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		GROUNDBREAKING SCHEDULES: • Groundbreaking was held September 2014. FINANCING ARRANGEMENTS: • Financial Arrangement Secured (65% Loan / 35% Equity) CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Construction of the Project has been underway since January 2014; • Construction Activities of Unit 1&2 2 x 150MW Power Plant - 2.30%; • Design and Construction of Pier and Jetty Structure is 99.55%; • Overall Piling Works is 52.29%; • Turbine and Generator Building is 58.47%; and • Ash Dump Design and Construction - 100% COMMENCEMENT OF CONSTRUCTION: March 2014		
1 x 420 MW Pagbilao Coal-Fired Thermal Power Plant/ Pagbilao Energy Corporation/ Pagbilao Power Station, Nrgy. Ibabang Polo, Pagbilao, Quezon **Cost: US$ 1,000,000,000.00**	420	FEASIBILITY STUDY: • Feasibility Study completed; and • Estimated Net Capacity: 400MW ARRANGEMENT FOR SECURING THE REQUIRED LAND: Completed MARKETING OF GENERATING CAPACITIES: • Contract with off-takers completed, Suppy agreement executed; • 50% of the plant's capability will be sold to Therma Luzon Inc.; and • 50% will be sold to TeaM (Phils.) Energy Corporation PERMITS AND OTHER REGULATORY REQUIREMENTS: • Environmental Compliance Certificate was issued on 18 June 2013; • Secured endorsement from Sangguniang Barangay of Ibabang Polo, Sangguniang Bayan of Pagbilao, Sangguniang Panlalawigan of Quezon; • ECC issued on 18 June 2013; and • In final negotiations with NPC, PSALM, TeaM Energy Corporation and Therma Luzon, Inc. to co-locate the plant in the existing Pagbilao Power Station; GROUNDBREAKING SCHEDULES: • 23 July 2014 FINANCING ARRANGEMENTS: • Financial Arrangement Secured with various lenders on 30 July 2014; On-going draw downs for planned milestones and progress payments; and • Estimated Project Cost: US$ 1,000,000,000.00 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Construction Contracts for Plant & Equipment:Completed and executed;	Between May to November 2017	November 2017

Annex 4. Private Sector Initiated Power Projects in Luzon (COMMITTED) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION/PROJECT COST	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		• Notice to Proceed and Commencement; • Notice issued to EPC Contractor; Down Payment already released to EPC contractor; and • Commencement of EPC and Construction: May 2014; Approximately 71% completed as of February 2016		
San Buenaventura Power Ltd. Co. (SBPL) Project/ San Buenaventura Power Ltd. Co. (SBPL)/ Mauban, Quezon **Cost: Php37.8B**	460	• SBPL has signed a PSA with Meralco on 29 May 2014; • PSA was approved by ERC on March 27, 2015 and released May 19, 2015 PERMITS AND OTHER REGULATORY REQUIREMENTS: • Clearance to Underatake GIS from DOE issued on 7 March 2013; • System Impact Study completed in 2007 and is being revalidated in 2013; • ECC (Ref.Code 0610-012-4021) issued on 4 June 2007; • ECC extension of validity issued on 31 May 2012 and valid until 4 June 2015; ECC for SBPL issued on 11 November 2014; • Reguest for Amendment to upgraded technology submitted to EMB on 17 February 2014; • Request to assign the ECC for new project was requested on 2 June 2014; • Additional information requested by EMB on 7 August 2014;QPL is in the process of preparing the documents; • Secured Sanggunian Bayan Resolution No. 2014-269 endorsing the project to expand; • SIS completed in 2007 and is being revalidated; • Municipal LGU endorsement issued April 19, 2005; • Certificate of Non-Overlap was issued by the NCIP to Quezon Power on 5 February 2014; Request to assign the CNO was endorsed by the DOE and submitted to the NCIP on 15 July 2014; Certificate of Non-overlap issued on 29 August 2014; and • ERC application was filed on 2 June 2014; Financing arrangements is expected to be secured only after the ERC issues the final approval; BOI Certificate of Registration issued on 15 October 2015 FINANCING ARRANGEMENTS: • Financing arrangements is expected to be secured only after the ERC issues the final approval; Financially closed December 1, 2015 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Owner's Engineer selected; EPIC bids received in November 2013 • EPC Contract signed October 2014 COMMENCEMENT OF CONSTRUCTION: • Award EPC contract estimate September 2013; • End of 2014; • Expect to commence construction only after the ERC issues the final approval; and • 4 years to fully complete the construction of the plant	December 2018	June 2019
2 X 600 MW Dinginin Expansion Project/ GNPower Dinginin Coal Plant Ltd. Co./ Mariveles, Bataan	1,200.00	PERMITS AND OTHER REGULATORY REQUIREMENTS: • On-going presentation/proposal submissions to potential customers; • Clearance to Undertake GIS from DOE issued on 26 June 201; • Obtained LGU endorsements; BOI registration for 600 MW pre-approved: • On-going SI; • On-going EIS for ECC application;	Unit I - August 2018 Unit II - 2019	Unit I - December 2018 Unit II -January 2020

Annex 4. Private Sector Initiated Power Projects in Luzon (COMMITTED) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION/PROJECT COST	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
Cost: $1B		• On-going securing DOE of Endorsement for DENR-ECC Arrangements for securing the required land will be acquired by an affiliate Filipino company of GNPower; and • On-going negotiation with tenders FINANCING ARRANGEMENTS: • Provided bank certification, financial closing as of 18 March 2016 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • On-going finalization of EPC Contract		
NATURAL GAS	**1,150.00**			
100 MW San Gabriel Avion Project/ Prime Meridian PowerGen Corporation (Project Company) First Gen Corporation/ Barangay Bolbok, Batangas **Cost: PhP10B**	100	MARKETING OF GENERATING CAPACITIES: • Off-taker: Discussion with target off-takers on-going. PERMITS AND OTHER REGULATORY REQUIREMENTS: • System Impact Study (SIS) was completed; • Amendment of Philippine Ports Authority (PPA) charter to accommodate for the right of way for the project site is still for approval by the Office of the President; • Engineering and design by the Contractors is ongoing finalization with parallel reviews being performed by PMPC and its Technical Consultants; • Excavation and ground preparation works by the EPC contractor are ongoing; and • Procurement of plant equipment is continuing, with most of the major power plant components either being manufactured or are scheduled for delivery to the site; FINANCING ARRANGEMENTS: Secured CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Delivery of the first of two (2) Gas Turbine and some ancillary equipment have arrived at the Port of Batangas on 5 October 2014 and are expected to be delivered to the site by 24 October 2014; • Shipment of the 2nd Gas Turbine and ancillary equipment is expected to arrive at the prot of Batangas by the end of October 2014; • All test are conducted such as Seismic, Geological and Hydro tests; • Seven (7) poles are to be set up for the transmission lines; • Signing of Contract with Meiscor for the construction of transmission line April 22, 2014; and • Committed Arrival of the Turbine - September 2014 COMMENCEMENT OF CONSTRUCTION: • Commencement of Construction will be on October 2013; • Completion of facility on April 2015; and • Completion of testing and commissioning (with availability of Natural gas from Malampaya) on May 2015	December 2015 (Target Commercial Operation)	June 2016
1x450 San Gabriel Power Plant (Phase II)/ First NatGas Power Corp./ Santa Rita, Batangas	450	MARKETING OF GENERATING CAPACITIES: • Discussion with target off takers targeted for the first half of 2014; still on-going (17 June 2015) PERMITS AND OTHER REGULATORY REQUIREMENTS: • Secured Clearance from DOE for the conduct of GIS on 18 February 2013;	March 2016	June 2016

Annex 4. Private Sector Initiated Power Projects in Luzon (COMMITTED) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION/PROJECT COST	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
Cost: US$600 Million		• Engineering, Procurement and Construction (EPC) and Operations Maintenance (O&M) contracts already awarded on December 16, 2013; • Ongoing application for the Permit to operate mechanical equipment such as boilers, pressure vessels etc from City Engineers office of Batangas; • Ongoing application for COE and MOA from DOE; • Ongoing application for ERC point to point connection of transmission lines for Sta. Rita, San Lorenzo switchyard; • Ongoing negotiations with NGCP for contract metering and Transmission Service Agreement; and • SIS was approved by NGCP on 11 December 2013. FINANCING ARRANGEMENTS: • Financial Arrangement with kfW Secured on 4 September 2014 COMMENCEMENT OF CONSTRUCTION: • 16 December 2013		
Pagbilao 600 MW Combined Cycle Gas Fired Power Plant/Proposed 3x200 MW CCGT Power Plant/ Energy World Corporation/ Brgy. Ibabang Polo, Grande Island, Pagbilao, Quezon **Cost:$300M**	600	ARRANGEMENT FOR SECURING THE REQUIRED LAND: • Land is already secured with a long lease entered into since 2007 MARKETING OF GENERATING CAPACITIES: • No specific off taker yet but already have a discussion with Federation of Philippine Industries, intended to supply power into the Wholesale Electricity Spot Market but is also open to discussing potential off take arrangements as well PERMITS AND OTHER REGULATORY REQUIREMENTS: • GIS for 300MW issued by NGCP on 8 August 2013 and revised on 3 July 2013 for 600MW • Issued DOE Endorsement for Revised Capacity on 3 July 2013; • Revised DOE clearance for GIS submitted to NGCP on January 2014 • GIS from NGCP for the 600MW was released on August 2014; • Several Resolutions has been issued on May 2014 (Sangguniang Barangay Resolution, Sangguniang Bayan Resolution and Sangguniang Panlalawigan Resolution) interposing no objection for the construction of a 600 MW Liquified Natural Gas (LNG) Power Plant; and • On-going processing of ECC for power plant FINANCING ARRANGEMENTS: • Financial Arrangement Secured; and • Syndicated Loan	U1 - June 2016 U2 - Sept 2016 U3 - February 2017	U1 - July 2016 U2 - October 2016 U3 - March 2016
HYDROPOWER	**65.90**			
Kapangan/ Cordillera Hydro Electric Power Corporation/ Kapangan & Kibungan, Benguet	60.0	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of Commerciality on 13 February 2014 COMMENCEMENT OF CONSTRUCTION: • On-going civil works of hydro facilities	February 2019	February 2019
Bulanao/ DPJ Engineers and Consultants/ Tabuk, Kalinga	1.0	MARKETING OF GENERATING CAPACITIES: • ESA with Kalinga Apayao Electric Cooperative Inc.	March 2019	March 2019

Annex 4. Private Sector Initiated Power Projects in Luzon (COMMITTED) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION/PROJECT COST	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
Cost: PhP 293M		PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of Commerciality on 11 March 2014; • Already secured NCIP clearance; • DENR Permits; • Land lease Agreement; and • Submitted Feasibility Study and 5-Yr Work Plan FINANCING ARRANGEMENTS: • Financial Arrangement Secured; and • Financing from DBP CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • On-going construction of intake structure and with purchase order for the turbine generator system		
Prismc/ PNOC-Renewables Corporation/ Rizal, Nueva Ecija	1.0	GROUNDBREAKING SCHEDULES: • Ground breaking held on 11 July 2014; Confirmed DOC on 4 September 2014; Rehabilitation CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • On-going construction activities	September 2019	September 2019
Magat A/ Isabela Electric Cooperative, Inc./ Ramon, Isabela	1.4	CONSTRUCTION: • On-going rehabilitation	Feb 2020	Feb 2020
Magat B/ Isabela Electric Cooperative, Inc./ Ramon, Isabela	1.0	CONSTRUCTION: • On-going rehabilitation	Feb 2020	Feb 2020
Tubao/ Tubao Mini-Hydro Electric Corporation/ Tubao, La Union	1.5	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of Commerciality on 19 March 2015 GROUNDBREAKING SCHEDULES: • Ground breaking held on 8 November 2014 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Pending submission of requirements for construction	March 2020	March 2020
SOLAR	**285.64**			
San Rafael Solar Power Plant/ SPARC Solar Powered Agri-Rural Communities Corporation/ San Rafael, Bulacan	3.82	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Awarded with Solar Energy Service Contract (SESC No. 2012-03-012) on 03 May 2012; and • Certificate of Commerciality No. SCC- 2015-10-035 dated 10 November 2015 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • On-going construction (see FIT Monitoring Board)	March 2016	April 2016
Morong Solar Power Plant/ SPARC Solar Power Agri-Rural Communities/ Morong, Bataan	5.02	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Awarded with Solar Energy Service Contract (SESC No. 2012-03-012) on 03 May 2012; and • Certificate of Commerciality No. SCC- 2015-10-037 dated 10 November 2015	March 2016	April 2016

Annex 4. Private Sector Initiated Power Projects in Luzon (COMMITTED) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION/PROJECT COST	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • On-going construction (see FIT Monitoring Board)		
Cabanatuan Solar Power Project/First Cabanatuan Renewable Ventures, Inc./ Cabanatuan City, Nueva Ecija	10.06	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Awarded with Solar Energy Service Contract (SESC No. 2012-08-018) on 04 September 2012; and Certificate of Commerciality No. SCC- 2015-09-025 dated 22 September 2015 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • On-going construction (see FIT Monitoring Board)	March 2016	April 2016
Palauig Solar Power Plant/ SPARC Solar Power Agri-Rural Communities/ Morong, Bataan	5.02	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Awarded with Solar Energy Service Contract (SESC No. 2012-03-013) on 03 May 2012; and • Certificate of Commerciality No. SCC- 2015-10-036 dated 10 November 2015 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • On-going construction (see FIT Monitoring Board)	March 2016	April 2016
Currimao Solar Photovoltaic Power Project/ Mirae Asia Energy Corporation/ Currimao, Ilocos Norte **Cost: US$51.9Million**	20.00	FEASIBILITY STUDY: Completed PERMITS AND OTHER REGULATORY REQUIREMENTS: • Awarded with Solar Energy Service Contract (SESC No. 2012-08-020) on 19 Sept 2012; • Secured Memorandum of Agreement with Provincial Government of Ilocos Norte for the utilization of the land; • Conducted Third Party SIS, currently under review by NGCP; • Acquired ECC from DENR, CNO from NCIP, Provincial, Municipal and Barangay Resolutions of Support, EPC Contract with LG CNS Co. Ltd., and proofs of negotiations/certifications with financial institutions for project financing; • Secured Clearance from DOE for the conduct of GIS on 11 October 2012; • Acquired the DOE -Certificate of Confirmation of Commerciality on 12 Jul 2013; and • Issued Confirmation of Commerciality on 12 July 2013 GROUNDBREAKING SCHEDULES: • Conducted Groundbreaking Ceremony on Nov 2012 FINANCING ARRANGEMENTS: • On-going negotiations for project financing CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Construction Stage as of 30 September 2014 (Pre-Construction -25% completed, Construction-0% completed, Interconnection - 0% completed)	February 2016	April 2016
Macabud Solar Photovoltaic Power Project/ ATN Philippines Solar Energy Group, Inc./ Brgy. Macabud, Rodriguez, Rizal	30.00	FEASIBILITY STUDY: Completed MARKETING OF GENERATING CAPACITIES: • On-going negotiations PPA with MERALCO in the absence of REPA PERMITS AND OTHER REGULATORY REQUIREMENTS: • Awarded with Solar Energy Service Contract (SESC No. 2011-05-002) on 12 May 2011;	March 2016	April 2016

Annex 4. Private Sector Initiated Power Projects in Luzon (COMMITTED) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION/PROJECT COST	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
Cost: US$70.0 Million		• Secured NGCP Review of Third Party SIS; • ECC from DENR; • CNO from NCIP; • Provincial Resolution of Support; • Clearances from Land Registration Authority; • DAR Certification; • Acquired the DOE Certificate of Confirmation of Commerciality on 27 Jun 2013; • Clearance to Undertake GIS from DOE issued on 17 October 2011; and • On-going negotiations or connection agreement, project financing and Right of Way FINANCING ARRANGEMENTS: • Proofs of negotiations/certifications with financial institutions for project financing; and • Negotiations for financial closing is on-going CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Construction Stage as of 30 September 2014 (Pre-Construction -80% completed, Construction-0% completed, Interconnection - 0% completed)		
Sta. Rita Solar Power Project/ Jobin-Sqm Inc./ Morong and Hermosa, Bataan	100.44	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Awarded with Solar Energy Service Contract (SESC No. 2013-10-039) on 30 October 2013; and • Certificate of Commerciality No. SCC- 2015-09-021 dated28 August 2015; CONSTRUCTION: • On-going construction (see FIT Monitoring Board)	March 2016	April 2016
YH Green/ YH Green/ Hermosa, Bataan	14.5	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Awarded with Solar Energy Service Contract(SESC No. 2015-06-241) on 26 June 2015; and • Certificate of Commerciality No. SCC- 2015-10-0381 dated 10 November 2015; CONSTRUCTION: • On-going construction (see FIT Monitoring Board)	February 2016	April 2016
Tarlac Solar Power Project/ Tarlac City, TarlacPetroSolar Corporation/ Tarlac City, Tarlac	50.00	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Awarded with Solar Energy Service SESC No. 2015-03-115) on 19 March 2015; and • Certificate of Commerciality No. SCC- 2015-09-027 dated 24 September 2015; CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • On-going construction (see FIT Monitoring Board)	February 2016	April 2016
Calatagan Solar Power Project Phase I/ Solar Philippines Calatagan Corporation/ Calatagan and Balayan, Batangas	46.78	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Awarded with Solar Energy Service (SESC No. 2014-12-091) on 22 December 2014; and • Amended Certificate of Commerciality No. SCC- 2015-09-028 dated 24 September 2015; CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • On-going construction (see FIT Monitoring Board)	February 2016	April 2016
WIND	-			
GEOTHERMAL	**43.00**			

Annex 4. Private Sector Initiated Power Projects in Luzon (COMMITTED) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION/PROJECT COST	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
Bacman 3 (Tanawon) Geothermal Project/ Energy Development Corporation/ Guinlajon, Sorsogon **Cost: $140M-180M**	31.00	PERMITS AND OTHER REGULATORY REQUIREMENTS: • DOE Service Contract within GRESC # 2009-10-003; • LGU endorsement; • Land Use Permits; • DENR-ECC; • Water Rights obtained; • Turnkey Contract pending result of feasibility study under negotiation; and • Submitted Declaration of Commerciality (DOC) on 17 June 2014, evaluation by DOE of the DOC is still on-going FINANCING ARRANGEMENTS: • Project to be financed by EDC	December 2017	2nd Half 2017 (Target Testing and Commissioning)
Maibarara 2 Geothermal Project/ Maibarara Geothermal Inc./ Batangas **Cost: PhP 1,848.30 Million**	12.00	FEASIBILITY STUDY: On-going MARKETING OF GENERATING CAPACITIES: • The off-taker for generated power is still under negotiation. PERMITS AND OTHER REGULATORY REQUIREMENTS: • Project is within the existing DOE Service Contract within GRESC # 2010-02-012; • LGU endorsement; • Land Use permits; • DENR-ECC and water rights obtained; • Secured Certificate of Non-overlap from NCIP regional Office IV; and • Confirmation of Commerciality obtained from DOE on 21 September 2015	August 2017	August 2017
BIOMASS	**33.70**			
2 MW ACNPC WTE Biomass Power Plant Project/ Asian Carbon Neutral Power Corporation/ Tarlac	1.50	FINANCING ARRANGEMENTS: Closed CONSTRUCTION: • On-going construction	Phase 1 - January 2016 Phase 2 - July 2016	Phase 1 - (0.75MW) April 2016 Phase 2 - July 2016 (0.75MW)
12 MW Biomass Power Plant Project/ Green Innovations for Tomorrow Corporation/ Nueva Ecija	10.80	PERMITS AND OTHER REGULATORY REQUIREMENTS: • BREOC No. 2013-09-037; • Issued Declaration of Commerciality on 16 June 2014; FINANCING ARRANGEMENTS: Closed CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Pre-Construction: 79%; Construction: 18%; Interconnection:0% • On-going construction	November 2015	April 2016
5 MW Bicol Biomass Energy Corporation/Bicol Biomass Energy Corporation/ Camarines Sur	4.50	FINANCING ARRANGEMENTS: Closed CONSTRUCTION: • On-going construction	December 2015	April 2016

Annex 4. Private Sector Initiated Power Projects in Luzon (COMMITTED) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION/PROJECT COST	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
8.8 MW Biogas Power Plant Project/ AseaGas Corporation/ Batangas	6.10	CONSTRUCTION: • On-going construction	February 2016	April 2016 (Target Testing and Commissioning)
24 MW SJCiPower Rice Husk-Fired Biomass power Plant Project (Phase 1 - 12MW San Jose City I Power Corporation Phase 2 - 12 MW)/ Brgy. Tulat, San Jose, Nueva Ecija **Cost: Php1.234B**	10.80	PERMITS AND OTHER REGULATORY REQUIREMENTS: • BREOC No. 2011-01-013; • ECC, LGU, Land Use Permit; • Secured Clearance from DOE for the conduct of GIS on 21 July 2011; and • Issued Certificate Confirmation of Commerciality on 2 Sept 2013 GROUNDBREAKING SCHEDULES: • Groundbreaking on 12 Oct 2013 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • EPC w/ Engcon of Singapore; • Pre-construction (100% completed as of 31 August 2014); • Phase I - Estimated Accomplishment of Construction 98 % completed as of 31 August 2014) • Remaining major equipment in-progress is the installation of travelling gate; • On-going installations of the feed water piping system, chemical dosing pipeline, three control elements of the boiler and other field instruments; • Expected arrival of switchyard is on May 2014; • Interconnection (100% completed as of 31 August 2014); • On-going construction as of 30 September 2014; and • Pre-Construction - 100%; Construction-98%; Interconnection-100%)	Phase 1 - Operational Phase 2 - June 2017 (Subject to FIT)	Phase 1 - November 2014 (Operational) Phase 2 - July 2017 (Subject to FIT)

Total Committed Rated Capacity: 4,340.24

Source: DOE

Annex 5. Private Sector Initiated Power Projects in Luzon (INDICATIVE) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
COAL	**5,200.00**			
Limay Power Plant Project Phase II (2x150MW)/ SMC Consolidated Power Corporation/ Brgy. Lamao, Limay, Bataan	300	FEASIBILITY STUDY: Completed ARRANGEMENT FOR SECURING THE REQUIRED LAND: • Acquisition Completed MARKETING OF GENERATING CAPACITIES: • On-going electric power supply contract negotiation with prospective off-takers (DUs) PERMITS AND OTHER REGULATORY REQUIREMENTS: • Final review and drafting of ECC was done last 16 August 2013 and expected to receive by end of August 2013; • Submitted System Impact Study last 12 July 2013, review of the report is still on-going; • Requirements for BOI will be submitted once ECC is release; Expected submission on 1st week of September 2013; • Agreement for the use of the land was entered between SMC Consolidated Power Corp and leasehold rights holder • On-going securing of other permits and other regulatory requirements • SEC issued last 19 August 2011; Site Development Target: GROUNDBREAKING SCHEDULES: • 3rd Week of September 2013 FINANCING ARRANGEMENTS: • Securing project financing 70:30 Debt-equity ratio • Project cost is Under Planning and Budget Review CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Awarded EPC to Formosa Heavy Industries (FHI) • Issued NTP on 1 August 2014 • Completed and issued construction and supply contracts on EPC's inside batter limit (main equipment) • Other main contracts for review and awarding (site development/land preparation, transmission connection, pier and jetty structure, fuel handling facilities and other ancillaries, ash pond construction and water supply) • Handover of site for Unit 1 is 31 Oct. 2014; • Handover of Site for Unit 2 is 28 February 2015; • Target Date for Coal Yard for Phase 2 is 31 August 2015; • Transmission Target: New extra high voltage TL and SS should be ready by November 2016; COMMENCEMENT OF CONSTRUCTION: • Target commencement of construction- Site development/Land preparation: 2 September 2013 (upon release of ECC) • Start of Piling and Construction: 15 October 2013	Unit 1 - February 2017 Unit II - 2017	Unit 1 - July 2017 Unit II - 2017 (Target Testing & Commissioning)

Annex 5. Private Sector Initiated Power Projects in Luzon (INDICATIVE) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
Limay Power Plant Project Phase III (2x300MW)/ SMC Consolidated Power Corporation/ Brgy. Lamao, Limay, Bataan	600	FEASIBILITY STUDY: Completed MARKETING OF GENERATING CAPACITIES: On-going electric power supply contract negotiation with prospective off-takers (DUs) PERMITS AND OTHER REGULATORY REQUIREMENTS: Final review and drafting of ECC was done last 16 August 2013 and expected to receive by end of August 2013; Submitted System Impact Study last 12 July 2013, review of the report is still on-going; Requirements for BOI will be submitted once ECC is release; Expected submission on 1st week of September 2013; Agreement for the use of the land was entered between SMC Consolidated Power Corp and leasehold rights holder; On-going securing of other permits and other regulatory requirements; SEC issued last 19 August 2011; Land acquisition completed; Site Development Target: 1) Handover of site for Unit 1 & 2 is December 2015; and Transmission Target: New extra high voltage TL and SS should be ready by November 2016 GROUNDBREAKING SCHEDULES: • 3rd Week of September 2013 FINANCING ARRANGEMENTS: On-going negotiations for financing arrangements - securing project financing 70:30 Debt-equity ratio; and Project cost is Under Planning and Budget Review CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: Completed and issued construction and supply contracts on EPC's inside batter limit (main equipment); Other main contracts for review and awarding (site development / land preparation, transmission connection, pier and jetty structure, fuel handling facilities and other ancillaries, ash pond construction and water supply); Target commencement of construction- Site development/Land preparation: 2 September 2013 (upon release of ECC); and Start of Piling and Construction: 15 October 2013	Unit 1 - October 2016 Unit II - March 2017	Unit 1 - December 2016 Unit II - May 2017 (Target Testing & Commissioning)
1x300 MW Coal Power Plant/ Lucidum Energy, Inc./ Silanguin Bay, Zambales	300	FEASIBILITY STUDY: Completed • Pacifictech Solutions has completed Feasibility Study as of November 2014 ARRANGEMENT FOR SECURING THE REQUIRED LAND: • Lucidum have decided to purchase the land rather than to lease; and • Additional land area has been decided upon to be leased as right of way for the conveyor belt from the port	June 2017 (will be available upon completion of feasibility study and the assessments of the financing	June 2017 (Target Testing & Commissioning; will be available upon completion of feasibility study and the assessments of

Annex 5. Private Sector Initiated Power Projects in Luzon (INDICATIVE) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
Cost: US$ 600,000,000.00		PERMITS AND OTHER REGULATORY REQUIREMENTS: • Initial talks between Lucidum and respective DUs, large scale power consumers and cooperatives have been initiated; • Several structures are being considered to comply with the PPA or commercial guarantees; • Several structures are being considered to comply with the PPA or commercial guarantees; • Complete corporate documentation for SEC and DOE Endorsement for SEC has been complied; • On-going processing of other regulatory requirements; • LGU permits, among others; • Approval for the grid impact study has been obtained from the DOE to be submitted to NGCP; and • On-going processing of ECC requirements FINANCING ARRANGEMENTS: • Financing arrangements are currently negotiating with two lenders and they're waiting for the completion of the feasibility study for their validation; • Initial talks have been geared towards a 60-40 debt-equity ratio; • Current talks with a serious private equity, with the intentions of a turn-key relationship with the assistance of Lucidum group; and • Additional due diligence requirements are being complied for by Lucidum to for the above mentioned new additional parties CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Construction Contracts for Plants and Equipment are on hold pending the completion of detailed Engineering Studies; and • Decided upon the board as per advices by Stanley Consultants, that the incoming EPC contractor shall bear the expenses to allocate land of double size to reassemble the incoming coal turbine COMMENCEMENT OF CONSTRUCTION: • Commencement of Construction will be based upon completion of the Feasibility Study and the Assessments of the financing companies involved	companies involved)	the financing companies involved)
2 X 150 MW SLPGC Coal-Fired Power Plant Phase II/ Southwest Luzon Power Generation Corporation (Project Company)/ Brgy. San Rafael, Calaca, Batangas **Cost for Phase II: PhP19.864B**	300	ARRANGEMENT FOR SECURING THE REQUIRED LAND: • Property is currently under Land Lease Agreement (LLA) between Sem-Calaca Power Corporation (SCPC) with PSALM MARKETING OF GENERATING CAPACITIES: • On-going negotiations with prospective off-takes (DUs and those currently with PSAs and contestable market under Open Access Regime PERMITS AND OTHER REGULATORY REQUIREMENTS: • SEC Registration - Aug 2011; • ECC application approved 21 Oct. 2011; • Issued COE for BOI on 11 March 2013 under the name of SLPGC; • ECC application approved 21 Oct. 2011; and • On-going securing other necessary permits	Unit I - 2016 Unit II - 2016	December 2017

Annex 5. Private Sector Initiated Power Projects in Luzon (INDICATIVE) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		FINANCING ARRANGEMENTS: • On-going financing negotiations with prospective banks CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • On-going negotiation with prospective EPC		
4 X 150 MW Coal Fired Thermal Power Plant/ JG Summit Holdings, Inc./ Brgy. Pinamukan Ibaba, Batangas City	600	ARRANGEMENT FOR SECURING THE REQUIRED LAND: • Property is currently under Land Lease Agreement (LLA) between Sem-Calaca Power Corporation (SCPC) with PSALM MARKETING OF GENERATING CAPACITIES: • On-going negotiations with prospective off-takes (DUs and those currently with PSAs and contestable market under Open Access Regime PERMITS AND OTHER REGULATORY REQUIREMENTS: • Conduct of EIA Study and Preparation of EIS - November 2013 to February 2014; • Draft EIS Submission and Preliminary Review - Middle of 2014; • Public Hearing - 1 month after submission of EIS; • EMB Review - 55 days; • ECC Decision - Target before end of 2014; • Awaiting ECC Decision - In its latest ruling SC upheld the CA decision to deny "for insufficiency of evidence," the request to issue a writ of kalikasan. The CA still invalidated the ECCs and the LDA. The respondents eventually filed a motion for reconsideration, which had just been denied with CA's latest ruling; • Secured Clearance from DOE for the conduct of GIS on 21 February 2014; and • Secured Endorsement from DOE for Certificate of CNO from NCIP on14 July 2014 FINANCING ARRANGEMENTS: • On-going negotiations for the financing arrangements and other permits CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Pre-Construction Phase (8 months); • Construction of EIA study and permitting; • Design and Engineering; • Commissioning of EPC Contractor (Phase 1 and Phase2); • Construction Phase (12 months) Civil Works and plant equipment installation; • Operation Phase (design life); • Start-up and unit synchronization; • Conduct of public Scoping with Stakeholder representatives 10 October 2013; • Conduct of Technical Scoping with EMB and EIA Rev Com - 6 November 2013; and • On-going securing of regulatory requirements	Unit 1 - June 2018 Unit 2 - Dec 2018 Unit 3 - June 2019	Unit 1 - June 2018 Unit 2 - Dec 2018 Unit 3 - June 2019 Unit 4 - Dec 2019 (Target Testing & Commissioning Date)
2 X 300 MW Coal-Fired Power Plant/ Redondo Peninsula Energy, Inc./ Sitio Naglatore, Cawag, Subic Bay Freeport Zone	600	FEASIBILITY STUDY: Completed ARRANGEMENT FOR SECURING THE REQUIRED LAND: • Project Site is leased from the Subic Bay Metropolitan Authority MARKETING OF GENERATING CAPACITIES: • Started discussions with the Manila Electric Company for sale of power;	Unit I - October 2018 Unit II - December 2018 (Target Commencement of Construction	2019

Annex 5. Private Sector Initiated Power Projects in Luzon (INDICATIVE) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
Cost: Php50B / $1.2B		• 52% owned by Meralco PowerGen Corp. (MPGC); • Target signing RP Energy and MERALCO PSA June 2015; and • Filing of application for PSA with ERC June 2015 PERMITS AND OTHER REGULATORY REQUIREMENTS: • Amended ECC (3rd Amendment) secured last 15 November 2012; • The Connection Agreement has been executed last October 24, 2014; • Execution after completion of NGCP's review of the revised System Impact Study and Facilities Study prepared by RPE; • NGCP's application to ERC for approval of Transmission Asset has been completed and is currently awaiting decision; • RPE's application to the ERC for the Connection Asset has been deemed sufficient in form and substance; • Revised System Impact GIS review by NGCP completed 10 May 2012; • Any further development dependent on Supreme Court decision on Writ of Kalikasan case; • Public consultations conducted in Subic on 29 June 2012; • Site Preparation completed in 2013; and • Target Commencement of Construction will be Dependent on Supreme Court decision on Writ of Kalikasan Case FINANCING ARRANGEMENTS: • On-going financing arrangements CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Engineering, Procurement and Construction (EPC) contract negotiations finalized; and • Site preparation construction on-going, construction commenced on Q3 2013	will be Dependent on Supreme Court decision on Writ of Kalikasan Case.)	
2 X 300 MW Masinloc Expansion/ AES Masinloc Power Partners Co., Inc./ Zambales **Cost: PhP49.45B**	600	FEASIBILITY STUDY: • Completed February 2011 ARRANGEMENT FOR SECURING THE REQUIRED LAND: • No additional land will be aquired as the expansion will be inside the existing Masinloc Power Plant Complex; and • NPC/PSALM, however, is still continuing the titling process and land registration for some parcels of land PERMITS AND OTHER REGULATORY REQUIREMENTS: • Grid Impact Studies obtained on 7 January 2011; • ECC Amendment was released by DENR on April 23, 2012; • The amended DOE Certificate of Endorsement for BOI was released on May 7, 2012; • Secured CoE for ERC on September 2011; • On-going processing of Certificate of Precondition from NCIP; and • SAPA amendment is still pending with DENR FINANCING ARRANGEMENTS: • Undergoing consultation with international / local banks	Unit 3 (300 MW) - September 2019 Unit 4 (300 MW) - June 2020	December 2019 (Target Testing and Commissioning)

Annex 5. Private Sector Initiated Power Projects in Luzon (INDICATIVE) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Selection of EPC Contractor on going COMMENCEMENT OF CONSTRUCTION: • 2nd Qtr 2014		
2 x 600 MW (net) Coal-Fired Power Plant/ Meralco PowerGen Corporation (Project Company: Atimonan One Energy/ Atimonan, Quezon	1,200	FEASIBILITY STUDY: • Completed 21 January 2015 ARRANGEMENT FOR SECURING THE REQUIRED LAND: • Acquisition of the parcels of the land in the target plant site in Atimonan, Quezon is on-going (expanding) MARKETING OF GENERATING CAPACITIES: • Energy to be sold to DUs and electric cooperatives; and • Discussion of PSA with potential off-takers on-going PERMITS AND OTHER REGULATORY REQUIREMENTS: • On-going securing of ECC; • SEC already amended; • Clearance to Undertake GIS from DOE issued on June 2014; • GIS on-going; • Ongoing discussion with LGU and there was no violent reaction from them on this proposed changes; • EIS draft submitted to DENR in Nov. 2014; • Foreshore Lease Application (FLA) submitted to DENR last March 2013 (currently on hold as the DENR does its internal organizational restructuring); and • Applied Certificate of Non-Overlap with National Commission on Indigenous Peoples (NCIP) FINANCING ARRANGEMENTS: • Financing discussion on-going; • Informal discussions have begun with several banks with respect to the financing of the project; and • On-going negotiations with lenders CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Owner's Engineer has been appointed; EPC pre-qualification process on-going; • EPC pre-qualification process on-going; • No contracts have been awarded to date re: EPC still on-going; and • On-site works targeted to start in 2016 COMMENCEMENT OF CONSTRUCTION: • The parties have yet to agree on when construction will commence.	December 2020	December 2020
2 x 350 MW PCB Subcritical Coal-Fired Power Plant/ H & WB ASIA PACIFIC (PTE LTD)	700	FEASIBILITY STUDY: • Pre-feasibility studies have conducted to determine the viability of the project- Completed in 2014; and	Unit 1 - 4th Quarter 2020Unit	Unit 1 - 4th Quarter 2020Unit 2 - 4th Quarter 2025

Annex 5. Private Sector Initiated Power Projects in Luzon (INDICATIVE) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
CORPORATION/ Jose Panganiban, Camarines Norte		• Feasibility study is expected to be completed by the end of 2nd Quarter 2016 ARRANGEMENT FOR SECURING THE REQUIRED LAND: • Land already secured and it has been re-classified as industrial; being resurveyed for titling (6/12/2015) MARKETING OF GENERATING CAPACITIES: • On-going negotiations with MERALCO and Electric Cooperatives will be held on 3rd week of March; • H&WB prepares PSA March 25, 2015; and • H&WB is reviewing the term sheet provided by MERALCO PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued clearance to undertake GIS on February 12, 2015; • On-going securing of permits and other regulatory requirements; • LGU endorsement secured 10 June 2014; • NGCP issued "Offer of Service" for SIS on 31 March 2015- completed on 23 September 2015; • Currently undergoing NGCP's review process; • On-going processing of ECC requirements; and • Environmental Impact Assessment will be submitted in the 1st Quarter of 2016 FINANCING ARRANGEMENTS: • On-going discussions with major banks and capital companies for debt-financing CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Ongoing discussion with four potential co-developers and equity partners; and • Ongoing sourcing of potential EPC Contractors COMMENCEMENT OF CONSTRUCTION: • Construction to commence on the 4th Quarter 2017	2 - 4th Quarter 2025	
OIL	**196.00**			
Aero Derivative Combined Cycle Power Plant/ Calamba Aero Power Corporation/ Calamba, Laguna **Cost: PhP5.67B**	150	PERMITS AND OTHER REGULATORY REQUIREMENTS: • On-going securing of permits and other regulatory requirements; and • Granted clearance by DOE for the conduct of GIS	To be determined	To be determined
23 MW Gas Turbine Power Project/ DMCI Power Corporation/ San Rafael, Calaca, Batangas	23	PERMITS AND OTHER REGULATORY REQUIREMENTS: •Issued with GIS 2/2015	To be determined	To be determined
23 MW Gas Turbine Power Project/ DMCI Masbate Power Corporation/ San Rafael, Calaca, Batangas	23	PERMITS AND OTHER REGULATORY REQUIREMENTS: •Issued with GIS 2/2015	To be determined	To be determined

Annex 5. Private Sector Initiated Power Projects in Luzon (INDICATIVE) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
NATURAL GAS	**900.00**			
2 x 1,200 MW Combined Cycle Gas Turbine Power Plant Project/ Atlantic Gulf and Pacific Company of Manila, Inc./ Limay, Bataan (PNOC-AFC Industrial Estate)	2,400	FEASIBILITY STUDY: • On-going Feasibility Study MARKETING OF GENERATING CAPACITIES: • Details of off-takers for electricity are still being considered PERMITS AND OTHER REGULATORY REQUIREMENTS: • Secured Clearance to Undertake GIS from DOE on 3 June 2013; • Awaiting for review and approval of conversion of PNOC ECC from Petro Chemicals to LNG for Power; and • AG&P has made major financial commitments to the development of the new power plant project at Bataan which includes expert third parties to provide: (i) market data for electricity (ii) technical feasibility and initial design studies for the project development (iii) environment support and permitting and (iv) market study on LNG supplies	Unit 1 - March 2017 Unit II - March 2018	Unit 1 - October 2017 Unit 2 - October 2018
1x450 Sta. Maria Power Plant (Phase II)/ First Gen Ecopower Solutions Inc./ Santa Rita, Batangas	900	MARKETING OF GENERATING CAPACITIES: • Discussion on targeted off takers on-going PERMITS AND OTHER REGULATORY REQUIREMENTS: • Power Plant options update completed as of 17 June 2015; • City and Barangay endorsements acquired in 2013; • Secured Clearance from DOE for the conduct of GIS on 18 February 2013; • Environmental compliance Certificate application is on-going (targeted to be acquired by July 2015); • Importation permit application is on-going; • Accreditation from the BOI (targeted on December 2015); • Importation permit is on-going; • BOI Accreditation target is December 2015; • DENR ECC on going; Certificate is expected in September 2015; • Issuance of ECC from DENR expected by October 2015; • BOI targeted January 2016; and • On-going coordination with affected barangays FINANCING ARRANGEMENTS: • Discussion with International Financing outfits and local banks on-going CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • EPC and Operation Maintenance contracts targeted to be awarded on December 2015		
GEOTHERMAL	**80.00**			
Bacman 4 Botong - Rangas Geothermal Project/ Energy Development Corporation/ Bacon District, Sorsogon, Sorsogon City	40	FEASIBILITY STUDY: • On-going Feasibility Study PERMITS AND OTHER REGULATORY REQUIREMENTS: • DOE Service Contract within GRESC # 2009-10-003; • LGU endorsement, Land Use Permits, and DENR-ECC obtained; • Permits for the TCP and Water Rights are on-going; and	June 2018	1st Half 2019 (Target Testing and Commissioning)

Annex 5. Private Sector Initiated Power Projects in Luzon (INDICATIVE) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		• Turnkey Contract pending result of feasibility study FINANCING ARRANGEMENTS: • Project cost is subject to the result of the feasibility study. COMMENCEMENT OF CONSTRUCTION: • Target commencement of construction on 1st half of 2015		
Kayabon Geothermal Project/ Energy Development Corporation/ Manito, Albay	40	FEASIBILITY STUDY: • On-going Feasibility Study PERMITS AND OTHER REGULATORY REQUIREMENTS: • On-going Feasibility Study and resource assessment; • DOE Service Contract within GRESC # 2009-10-003 • LGU endorsement • DENR-ECC, and Water Rights obtained • On-going application for land-use permits and negotiations with lot owners • On-going application for SLUP and TCP permits • Clearance to Undertake GIS from DOE issued on 7 October 2011 FINANCING ARRANGEMENTS: • Project cost is subject to the result of the feasibility study COMMENCEMENT OF CONSTRUCTION: • Target commencement of construction on 2nd half of 2017	December 2019	May 2020 (Target Testing and Commissioning)
HYDROPOWER	**610.30**			
Ibulao Hydroelectric Power Project/ Hydrocore, Inc./ Lagawe, Ifugao	4.5	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of Commerciality on 26 June 2013; • Already secured LGU Endorsements; • DENR Environmental Compliance Certificate; • NCIP Certificate of Precondition; • Land Lease agreement and NWRB Permit; • Submitted Feasibility Study, Detailed Engineering Design and 5-Yr Work Plan and Grid Impact Study; and • Clearance to Undertake GIS from DOE issued on 17 October 2011 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • On-going construction (Pre-construction - 100%, Construction-0%, Interconnection-0%) completed as of 30 September 2014	June 2018	June 2018 (Target Testing and Commissioning)
Dupinga Hydroele Constellation Energy Corporation ctric Power Project/ Gabaldon, Nueva Ecija	3	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of Commerciality on 26 June 2013; • Already secured LGU Endorsements; • DENR Environmental Compliance Certificate; • NCIP Certificate of Compliance, and NWRB Permit; • Submitted Feasibility Study and 5-Yr Work Plan; • Submission of lacking requirements e.g. permits in progress;	June 2018	June 2018 (Target Testing and Commissioning)

Annex 5. Private Sector Initiated Power Projects in Luzon (INDICATIVE) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		• On-track with the schedule with regards to the permitting on-going conduct of pre-construction activities such as permitting; and • Issued confirmation of Commerciality on 26 June 2013 e.g. permits in progress CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Construction Progress (Pre-construction -0%, Construction-0%, Interconnection-0%) completed as of 30 September 2014		
Pinacanauan/ Sunwest Water & Electric Co., Inc./ Peñablanca, Cagayan	6.0	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of Commerciality on 18 September 2013; • Already secured LGU Endorsement; • DENR ECC, NWRB CWP and NCIP CNO; • Submitted Feasibility Study, Detailed Engineering Design and 5-Yr Work Plan; and • Clearance to Undertake GIS from DOE issued on 25 March 2013 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Construction Progress (Pre-construction - 0%, Construction-0%, Interconnection-0%) completed as of 30 September 2014	September 2018	September 2018
Tinoc 1/ Philnew Hydro Power Corporation/ Tinoc, Ifugao	4.1	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Pending submission of requirements for construction; and • Issued Confirmation of Commerciality on 9 August 2013	August 2018	August 2018
Tinoc 4/ Philnew Hydro Power Corporation/ Tinoc, Ifugao	5.0	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of Commerciality on 09 August 2013; • Submission of lacking requirements e.g. permits in progress; and • Clearance to Underatake GIS from DOE issued on 11 July 2011 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Construction Progress (On going Pre-construction, Construction-0%, Interconnection-0%) completed as of 30 September 2014	August 2018	August 2018
Ranggas/ Clean and Green Energy Solutions, Inc./ Goa & Tigaon, Camarines Sur	1.5	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Submission of lacking requirements e.g. permits in progress	June 2019	July 2019
Tinoc 2/ Philnew Hydro Power Corporation/ Tinoc, Ifugao	11.0	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of Commerciality on 06 January 2014; • Submission of lacking requirements e.g. permits in progress; and • Clearance to Underatake GIS from DOE issued on 11 July 2011 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Construction Progress (Pre-construction - 0%, Construction-0%, Interconnection-0%) completed as of 30 September 2014	January 2019	January 2019 (Target Testing and Commissioning)
Tinoc 3/ Quadriver Energy Corp./ Tinoc, Ifugao	5.0	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of Commerciality on 06 January 2014; • Submission of lacking requirements e.g. permits in progress; and • Clearance to Underatake GIS from DOE issued on 11 July 2011	January 2019	January 2019 (Target Testing and Commissioning)

Annex 5. Private Sector Initiated Power Projects in Luzon (INDICATIVE) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Construction Progress (Pre-construction - 0%, Construction-0%, Interconnection-0%) completed as of 30 September 2014		
Colasi/ Colasi Mini Hydro Electric Power Plant Corporation/ Mercedes, Camarines Norte	1.0	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Submission of lacking requirements e.g. permits in progress; and • Clearance to Underatake GIS from DOE issued on 3 December 2012 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • On-going rehabilitation	February 2019	February 2019 (Target Testing and Commissioning)
Majayjay/ Majayjay Hydro Power Company, Inc./ Majayjay, Laguna	2.2	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Submission of lacking requirements e.g. permits in progress CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • On-going pre construction activities	April 2019	April 2019 (Target Testing and Commissioning)
Tignoan HEP/ Aurora All Asia Energy Corp./ Real, Quezon	20.0	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Currently on-going Preparation of Business Plan; • On-going negotiations of Business Financing Arrangement; and • Clearance to Underatake GIS from DOE issued on December 2014	July 2019	July 2019
Biyao/ AV Garcia Power Systems Corp./ Balbalan, Kalinga	0.8	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of Commerciality on 01 August 2014; and • Submission of lacking requirements e.g. permits in progress CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Construction Progress (Pre-construction - 0%, Construction-0%, Interconnection-0%) completed as of 30 September 2014; and • Ongoing construction	August 2019	August 2019
Barit (Irrigation Discharge) Hydroelectric Power Project/ Nascent Technologies/ Buhi, Camarines Sur	0.4	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of Commerciality on 12 September 2014; and • Submission of Lacking requirements e.g. permits in progress CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • On-going construction (Pre-construction -0%, Construction-0%, Interconnection-0%) completed as of 30 September 2014; and • Pending submission of requirements for construction	September 2019	September 2019
Abdao HEP/ AV Garcia Power Systems Corp./ Tabaan Sur, Tuba, Benguet	1.0	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of Commerciality on 25 September 2014; and • Submission of Lacking requirements e.g. permits in progress CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • On-going pre construction (Pre-construction -0%, Construction-0%, Interconnection-0%) completed as of 30 September 2014; and • Pending submission of requirements for construction	September 2019	September 2019

Annex 5. Private Sector Initiated Power Projects in Luzon (INDICATIVE) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
Tumauini (Lower Cascade)/ Quadriver Energy Corp./ Tumauini, Isabela	7.8	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Submission of Lacking requirements e.g. permits in progress CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • On-going pre construction activities	October 2019	October 2019
Tumauini (Upper Cascade)/ Quadriver Energy Corp./ Tumauini, Isabela	14.0	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Submission of Lacking requirements e.g. permits in progress CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • On-going pre construction activities	October 2019	October 2019
Tinoc 5/ Philnew Hydro Power Corporation/ Tinoc, Ifugao	6.9	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Submission of Lacking requirements e.g. permits in progress CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • On-going pre construction activities	December 2019	December 2019
Tinoc 6/ Philnew Hydro Power Corporation/ Tinoc, Ifugao	8.0	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Submission of Lacking requirements e.g. permits in progress CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • On-going pre construction activities	December 2019	December 2019
Alilem/ Philnew Hydro Power Corporation/ Alilem, Ilocos Sur	16.2	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Submission of Lacking requirements e.g. permits in progress CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • On-going pre construction activities	December 2019	December 2019
Ilaguen/ Isabela Power Corporation/ San Mariano & San Guillermo	19.0	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of commerciality on 18 February 2015; • On-going permitting CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Pending submission of requirements for construction	February 2020	February 2020
Cawayan 2/ Sunwest Water & Electric Co., Inc./ Sorsogon, Sorsogon	1.0	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of commerciality on 15 April 2015; • On-going permitting CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Pending submission of requirements for construction		
Ilaguen 2/ Isabela Power Corporation/ Dinapique, Isabela	14.0	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of commerciality on 22 May 2015; and • On-going permitting CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Pending submission of requirements for construction	May 2020	May 2020
Danac/ Philnewriver Power Corp./ Sugpon, Ilocos Sur	13.2	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of commerciality on 29 June 2015; and • On-going permitting	June 2020	June 2020

Annex 5. Private Sector Initiated Power Projects in Luzon (INDICATIVE) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Pending submission of requirements for construction		
Matuno/ Epower Technologies Corporation/ Bambang, Nueva Ecija	8.0	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of commerciality on 24 June 2015; CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Pending submission of requirements for construction	June 2020	June 2020
Dibuluan/ Greenpower Resources Corp./ San Agustin, Isabela	5.0	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of commerciality on 24 June 2015 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Pending submission of requirements for construction	June 2020	June 2020
Man-Asok/ Benguet Electric Cooperative/ Buguias, Benguet	3.0	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of commerciality on 22 September 2015 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Pending submission of requirements for under development stage	September 2020	September 2020
Quirino/ Philnewriver Power Corp./ Quirino, Ilocos Sur	11.5	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of commerciality on 7 September 2015 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Pending submission of requirements for under development stage	September 2020	September 2020
Laguio Malaki 1/ Enervantage Suppliers Co., Inc./ Mauban, Quezon	1.6	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of commerciality on 9 October 2015 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Pending submission of requirements for under development stage	October 2020	October 2020
Laguio Malaki 2/ Enervantage Suppliers Co., Inc./ Mauban, Quezon	3.1	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of commerciality on 9 October 2015 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Pending submission of requirements for under development stage	October 2020	October 2020
Davidavilan/ PTC Energy, Inc./ Mauban, Quezon	1.0	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of commerciality on 9 October 2015 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Pending submission of requirements for under development stage	October 2020	October 2020
Bansud/ PTC Energy, Inc./ Mauban, Quezon	1.0	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of commerciality on 2 October 2015 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Pending submission of requirements for under development stage	October 2020	October 2020
Matuno 1/ Smith Bell Mini Hydro Corporation/ Ambaguio, Nueva Vizcaya	7.9	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of commerciality on 29 December 2015	December 2020	December 2020

Annex 5. Private Sector Initiated Power Projects in Luzon (INDICATIVE) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Pending submission of requirements for under development stage		
Matuno 2/ Smith Bell Mini Hydro Corporation/ Bambang, Nueva Ecija	7.9	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of commerciality on 29 December 2015 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Pending submission of requirements for under development stage	December 2020	December 2020
3.0 MW Lalawinan Mini-Hydro Power Project/ Repower Energy Development/ Real, Quezon	3.0	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of commerciality on 29 December 2015	December 2020	December 2020
2.6 MW Maapon River Mini-Hydro Power Project (MHP)/ Renesons Energy Corporation/ Brgy. Piis, Lucban, Quezon	2.6	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued Confirmation of commerciality on May 2014	December 2020	December 2020
100 Alimit/ SN Aboitiz Power-Ifugao/ Lagawe, Ifugao	100.0	FEASIBILITY STUDY: • Completed Pre-FS PERMITS AND OTHER REGULATORY REQUIREMENTS: • Project capacity of 120 MW; • Preparing Business Plan; • Financing Arrangement in progress; • Application for NCIP FPIC CCA1 Concluded, CCA 2 commencement on 5/15/15; and • DENR permit under process; NGCP studies under process	January 2021	January 2021
240 MW Alimit/ SN Aboitiz Power-Ifugao/ Lagawe, Ifugao	240.0	FEASIBILITY STUDY: • Completed Pre-FS PERMITS AND OTHER REGULATORY REQUIREMENTS: • project capacity of 120 MW; • Preparing Business Plan; • Financing Arrangement in progress; • Application for NCIP FPIC CCA1 Concluded, CCA 2 commencement on 5/15/15; and • DENR permit under process; NGCP studies under process	January 2021	January 2021
10 MW Olilicon HEPP/ SN Aboitiz Power-Ifugao/ Lagawe, Ifugao	10.0	FEASIBILITY STUDY: • Completed Pre-FS PERMITS AND OTHER REGULATORY REQUIREMENTS: • Project capacity of 120 MW; • Preparing Business Plan; • Financing Arrangement in progress; • Application for NCIP FPIC CCA1 Concluded, CCA 2 commencement on 5/15/15; and • DENR permit under process; NGCP studies under process	January 2021	January 2021
Maris Main Canal 1 HEP/ SN Aboitiz Power Generation/ Ramon, Isabela	6.0	FEASIBILITY STUDY: • Feasibility design completed; and • Technical studies completed	January 2021	January 2021

Annex 5. Private Sector Initiated Power Projects in Luzon (INDICATIVE) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		PERMITS AND OTHER REGULATORY REQUIREMENTS: • NIA agreement for pre-development activities secured; • LGU endorsement completed; • NCIP field based Investigation completed; awaiting release of CNO; • DENR permitting completed; draft ECC for power plant issued; • CNC for transmission line issued; NGCP studies completed; • Environmental and Social Studies completed; and • Water right and right of way acquisition on-going		
Maris Main Canal2 HEP/ SN Aboitiz Power Generation/ Alfonso Lista, Ifugao	1.8	FEASIBILITY STUDY: • Feasibility design completed; and • Technical studies completed PERMITS AND OTHER REGULATORY REQUIREMENTS: • NIA agreement for pre-development activities secured; • LGU endorsement completed; • NCIP field based Investigation completed; awaiting release of CNO; • DENR permitting completed; draft ECC for power plant issued; • CNC for transmission line issued; NGCP studies completed; • Environmental and Social Studies completed; and • Water right and right of way acquisition on-going	To be determined	To be determined
Kabayan 1/ Hedcor Benguet, Inc./ Benguet	20.0	FEASIBILITY STUDY: • On-going conduct of Feasibility Study PERMITS AND OTHER REGULATORY REQUIREMENTS: • Securing of permitting requirements; and • Newly signed HSC Dec 28, 2015; COR Dec 23, 2015	To be determined	To be determined
Talubin Hydropower Project/ Mountain Province Electric Cooperative, Inc./ Bontoc, Mountain Province	5.4	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued with GIS on 11 December 2015	To be determined	To be determined
SOLAR	**178.0**			
Clark Freeport Zone Solar Power Project/ Enfinity Philippines Renewable Resources, Inc./ Clark Freeport Zone, Pampanga	12	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Awarded with Solar Energy Service Contract (SESC No.2014-07-086) on 24 July 2014 • Acquired the DOE Certificate of Confirmation of Commerciality on 20 March 2015 FINANCING ARRANGEMENTS: • negotiations for financial closing CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • On-going construction (see FIT Monitoring Board)	March 2016	April 2016
Concepcion Solar Power Project/ Enfinity Philippines Renewable Resources, Inc./ Brgy. Sta. Rosa, Concepcion Tarlac	50.55	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Awarded with Solar Energy Service Contract (SESC No.2015-02-101) on 28 January 2015; and • Acquired the DOE Certificate of Confirmation of Commerciality on 11 June 2015	December 2015	April 2016 (Target Testing and Commissioning)

Annex 5. Private Sector Initiated Power Projects in Luzon (INDICATIVE) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		FINANCING ARRANGEMENTS: • Negotiations for financial closing CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • On-going construction (see FIT Monitoring Board)		
Cavite Solar Power Project/ Enfinity Philippines Renewable Resources, Inc./ Cavite Economic Zone, Rosario Cavite	3	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Awarded with Solar Energy Service Contract (SESC No. 2011-12-006) on 16 December 2011 • Acquired the DOE Certificate of Confirmation of Commerciality on 23 March 2015 FINANCING ARRANGEMENTS: • negotiations for financial closing CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • On-going construction (see FIT Monitoring Board)	February 2016	April 2016 (Target Testing and Commissioning)
Solar Power Project/ V-Mars Solar Energy Corporation/ San Jose/Lupao, Nueva Ecija	10	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued with GIS on 11 January 2016	To be determined	To be determined
Solar Power Project/ SJC Solar Power Corporation/ San Jose City, Nueva Ecija	10	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued with GIS on 3 February 2016 (DOE-EPIMB-SIS No. 2016-02-003)	To be determined	To be determined
Solar Power Project/ Roxas Green Energy Corporation/ Nasugbu and Tuy, Province of Batangas	30	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued with GIS on 10 February 2016 (DOE-EPIMB-SIS No. 2016-02-006)	To be determined	To be determined
Calabanga Solar Power Project/ Calabanga Renewable Energy Inc./ Calabanga, Camarines Sur	50	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Issued with GIS on 11 March 2016 (DOE-EPIMB-SIS No. 2016-03-001)	To be determined	To be determined
WIND	**249.00**			
Phase 1: Pasuquin East Wind Power Project/ Energy Logics Philippines, Inc./ Pasuquin, Ilocos Norte **Cost: PhP6.048B**	48	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Awarded with Wind Energy Service Contract (WESC No. 2009-09-001) on 14 Sept 2009; • Acquired Forest Land-Use Agreement with DENR; • On-going wind resource assessment; • Acquired various LGU permits and resolutions of support; • ECC secured 15 Jun 2010; • GIS secured Dec 2010; • On-going negotiation with the Dept. of National Defense for the clearance to construct wind farm within the vicinity of Pasuquin Radar Station; • Equity Investors commitment secured; • Selected Preferred EPC Turn-key Tenderer for both the wind energy farm and the connection assets; • Submitted the Declaration of Commerciality (DOC) with incomplete documentary requirements; • The DOE is waiting for the final Work Plan of the project for further evaluation;	June 2016	June 2016 (Target Testing and Commissioning)

Annex 5. Private Sector Initiated Power Projects in Luzon (INDICATIVE) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		• On-going negotiations for project financing and acquisition of TL-ROW as per Work plan; and • Acquired DOE Certificate of Confirmation of Commerciality on 02 December 2013 FINANCING ARRANGEMENTS: • Negotiation for financial closing is on-going CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • On-going construction; • Construction Stage as of 30 September 2014(Pre-Construction - 39% completed, Construction-0%, Interconnection-0%); and • On-going negotiation for project financing and acquisition of TL-ROW as per Work Plan		
Sembrano Wind Power Project (Formerly: Phase 2: Mabitac Wind Power Project)/ Alternergy Sembrano Wind Corporation/ Mt. Sembrano, Mabitac, Laguna **Cost: Php7.056B**	72	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Acquired DOE Certificate of Confirmation of Commerciality on 13 February 2014; • Amended the Contract Area and assigned partially to Alternergy Sembrano Wind; Corporation ASWC-WESC No. 2009-09-018-AP2 on 27 February 2014; • Under the same contract area of WESC No. 2009-09-018; • On-going wind resource assessment; • Acquired various LGU permits and resolutions of support; • Interconnection Agreement with MERALCO last 1 March 2012; • Project Finance Term Sheet with Bank last 27 July 2012; Negotiation for financial closing is on-going; and • Final review of GIS by NGCP last 31 July 2012 FINANCING ARRANGEMENTS: • AWOC to finance the implementation of the project with 100% equity; and • Negotiations for financial closing is on-going. CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • EPC and O&M Contract with consortium of Nordex SE and McConnell Donnell last 11 July 2012; • On-going construction; • Construction Stage as of 30 September 2014(Pre-Construction - 22% completed, Construction-0%, Interconnection-0%); and • On-going completion of Pre-construction activities including financial closing Work Plan	April 2017	April 2017 (Target Testing and Commissioning)
Balaoi Wind Power Project/ Northern Luzon UPC Asia Corporation/ Brgy. Balaoi, Pagudpud, Ilocos Norte **Cost: US$139.5Million**	45	FEASIBILITY STUDY: • Completed detailed feasibility study ARRANGEMENT FOR SECURING THE REQUIRED LAND: • Land Rights Acquisition for WTG or PV, Access Road, and TL: 12% completed as of December 2014 (all land rights secured through Flags and private agreements; TL ROW permitting on going) PERMITS AND OTHER REGULATORY REQUIREMENTS: • Awarded with Wind Energy Service Contract (WESC No. 2010-02-038) on 1 Feb 2010; • Conducted detailed wind resource assessment;	August 2017	August 2017 (Target Testing and Commissioning)

Annex 5. Private Sector Initiated Power Projects in Luzon (INDICATIVE) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		• Acquired various LGU permits and resolutions of support; • NCIP Certificate of Non-Overlap on 15 Jan 2007; • Forest Land use Agreement with DENR on 20 May 2009; • DENR Environmental Compliance Certificate on 23 Jul 2009, DPWH Road Right-of-Way for T/L construction; • CAAP Height Clearance permit; • Final Report of SIS and Connection Agreement with NGCP secured on 4 Jan 2011; • BOI Registered on 23 Jun 2011; and • Acquired DOE Certificate of Confirmation of Commerciality on 02 December 2013 FINANCING ARRANGEMENTS: • Submitted proofs of negotiations/certifications from banks for project financing; • Financial Closing - 10% completed as of December 2014 (Project substantially permitted but funders will require clarity on Feed-in-Tariff installation targets before committing funding; and • Total project cost is US$139.5Million CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • On-going construction - 17.33% as of 30 March 2015; • Construction Stage as of March 2015(Pre-Construction - 52% completed, Construction of Wind Farm-0%, Interconnection Facilities - 0%); Construction shall commence upon completion of Caparispisan Project; • -Development works shall commenced upon completion of Caparispisan Project; • EPC, O&M, Owner's Engineer Contract/Agreement: 30% completed as of December 2014 (detailed Design Complete, Environmental Studies Complete); and • NGCP is conducting SIS prior to signing of Connection Agreement		
Pagudpud Wind Power Project/ EDC Pagudpud Brgy. Balaoi and Caunayan, Pagudpud, Ilocos Norte Wind Power Corporation	84	FEASIBILITY STUDY: • Completed feasibility study PERMITS AND OTHER REGULATORY REQUIREMENTS: • Awarded with Wind Energy Service Contract (WESC No. 2010-02-040) on 19 Feb 2010; • Conducted detailed wind resource assessment; • Acquired various LGU permits and resolutions of support, DENR Environmental Compliance Certificate; and • Acquired DOE Certificate of Confirmation of Commerciality on 13 June 2014 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • On-going construction; and • Construction Stage as of 30 September 2014 (Pre-Construction - 20% completed, Construction-0%, Interconnection-0%) COMMENCEMENT OF CONSTRUCTION: • Construction shall commence upon completion of Burgos Project	December 2018	December 2018
BIOMASS	**10.80**			
12 MW Rice Husk-Fired Biomass Power Plant Project/	10.8	For construction	January 2018	January 2018

Annex 5. Private Sector Initiated Power Projects in Luzon (INDICATIVE) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
Grass Gold Renewable Energy Corp./ Nueva Ecija				
BATTERY	**90.00**			
40 MW Battery Storage Project/ AES Philippines Power Partners Co., LTD./ Masinloc, Zambales	10	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Secured GIS on June 2, 2015; COE issued 16 December 2015 (10MW BESS) GROUNDBREAKING SCHEDULES: • Ground breaking ceremony 15 December 2015 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: • Construction on going COMMENCEMENT OF CONSTRUCTION: • Target Commencement of Construction: June 2016	June 2016	June 2016
40 MW Battery Storage Project/ AES Philippines Power Partners Co., LTD./ Laoag, Ilocos Norte	40	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Secured GIS on 18 February 2016 (DOE-EPIMB-SIS No. 2016-02-001)	To be determined	To be determined
40 MW Battery Storage Project/ AES Philippines Power Partners Co., LTD./ Bantay, Ilocos Norte	40	PERMITS AND OTHER REGULATORY REQUIREMENTS: • Secured GIS on 18 February 2016 (DOE-EPIMB-SIS No. 2016-02-001)	To be determined	To be determined

Total Indicative Rated Capacity: 7,514.20

Source: DOE

*Annex 6. **Private Sector Initiated Power Projects in Visayas (COMMITTED) as of 31 March 2016***

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
COAL	**420.00**			
PEDC Expansion Project Former report (1x150 MW Circulating Fluidized Bed (CFB) Coal-Fired Power Plant)/ Panay Energy Development Corporation (Global Business Power Corporation)/ Brgy. Ingore, La Paz, Iloilo	150	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS ECC secured Notice to Proceed (NTP) secured GIS- secured clearance from DOE for 82MW on 03 March 2011 OFF-TAKERS Panay-Guimaras Power Supply Consortium (PPSG) - 25yr power supply deal for 24 MW; and Other negotiations are ongoing and confidential FINANCIAL ARRANGEMENTS 26 March 2015 - PEDC signed a PhP11B loan to 6 Financial Institutions; Project cost is Php6.199B (FS submitted on 10/19/2015); Contracts for Plant and Equipment; June 2014 - Turnover of project site to Formosa Heavy Industries; and EPC Contractors: Formosa Heavy Industry Poyry Energy PROJECT PROGRESS 07 March 2014 – Ground Breaking; 14 August 2014-Start of Construction; and Overall Progress: 72.8% completed vs. 74.8% Planned (as of January 2016)	June 2016	July 2016
2 X 135 MW Concepcion Coal-fired Power Plant/Phase 1-135MW (1st Unit)/Phase 2-135MW (2nd Unit)/ Palm Concepcion Power Corp. (Formerly DMCI Concepcion Power Corp.)/ Brgy. Nipa, Concepcion, Iloilo **Cost: PhP26.356B**	270	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Feasibility Study-March 2006; DAR Conversion Order-Sept 2008; SEC-22 Nov 2010; DENR Final SIS Report-approved by NGCP on 17 July 2012 BOI-amended 02 Oct 2012; Connection Agreement with NGCP-01 Oct 2012; ECC-03 June 2013; NCIP- issued by DOE on 03 June 2014 for Unit 1; Appraisal Report for the PPA/MLA from the DENR Regional Director-Oct 2014; Endorsements from LGUs and local permits secured; Necessary land requirements secured FINANCIAL ARRANGEMENTS 24 July 2013-Financial Closure Secured OFFTAKERS For Unit 1-AKELCO-22 MW; PECO-10MW; CAPELCO-2MW; CENECO-35MW; NONECO (formerly VRESCO)-13MW; NOCECO-10MW; NORECO 1-5MW; CEBECO 2-10MW; SOLECO-4MW (updated as of Sept 2015) CONSTRUCTION CONTRACTS FOR PLANT AND EQUIPMENT Signed and awarded various contracts; Project Progress; 15 Jan 2013-Ground Breaking; 18 July 2013-Commencement of Construction for 1st Unit; Feb 2016 - Transmission is 100% completed; and Overall Progress: 96.80% completed vs. 95.67% planned (as of 31 Jan 2016)	1st Unit - June 2016 2nd Unit - May 2016 to September 2016 (specific dates for the 2nd unit will still be firmed up after 1st unit's commencement of construction)	1st Unit - 2nd Quarter 2016 2nd Unit - November 2016 (specific dates for the 2nd unit will still be firmed up after 1st unit's commencement of construction); To be firmed up

*Annex 6. **Private Sector Initiated Power Projects in Visayas (COMMITTED) as of 31 March 2016***

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
OIL	**18.90**			
18.9MW Calumangan Diesel Power Plant/ Energreen Power Development & Management, Inc./ Brgy. Calumangan, Bago City, Negros Occidental	18.9	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Feasibility Study-completed Environmental Impact Assessment Study-Sept 2012 DOE: w/ MOA and COE - 100% ERC: Approval of Supply Agreement - Provisional Aprroval dated 10 Nov 2014 - 100%; COC - 95%; Occular inspection conducted on Feb 3-5, 2016; Authority to develop and own or operate dedicated point-to-point limited transmission facilities - 100%; Approved by ERC on Oct. 29, 2015 Brgy. Calumangan Endorsement -01 September 2012 DENR: ECC - 21 Nov 2013; PTO - 100%; Provisional PTO pending conduct of emission test PEMC: Application for WESM Direct Membership - 29 Jan 2015; required submission of various documents mostly from NGCP and some for ERC - 100% NGCP issued Certificates of Approval to Connect (40MVA Substation-13 Nov 2015; 100m Line-04 Nov 2015; Unit 2 5MW-22 Jan 2016); Connection, Transmission & Metering Service Agreement - signed and transmitted back to NGCP10 Feb 2016 for signature OFF-TAKERS 70% of dependable capacity contracted to CENECO FINANCIAL ARRANGEMENTS Financially Closed CONTRACTS FOR PLANT AND EQUIPMENT 100 % Secured PROJECT PROGRESS Dec 2013-Commencement of Construction	Unit 1 - 5MW Mar 11-15, 2016 Unit 2 - 5 MW Jan 26-29, 2016 Unit 3- 5 MW Mar 11-15, 2016	Unit 1 - 5MW April 2016 Unit 2 - 5 MW April 2016 Unit 3 -5 MW April 2016
GEOTHERMAL	**50.00**			
Biliran Geothermal Plant Project/ Biliran Geothermal Incorporated/ Biliran, Biliran **Cost: US$ 208.021 M**	50	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Geothermal Service Contract from DOE-obtained ECC-secured for the proposed Geothermal Exploration Drilling and Biliran Power Plant Project on December 06, 2012 and August 23, 2013, respectively. Confirmation of Commerciality-obtained from DOE on 28 December 2014 FINANCIAL ARRANGEMENTS Memorandum of Understanding by and among Envent Holdings Philippines, Inc. (EHPI) and Philippine Associated Smelting and Refining Corp. (PASAR) signed on May 10, 2013	August 2016	Phase 1 - Sept 2016 Phase 2 - Oct 2016 Phase 3 - July 2017
HYDROPOWER	**21.90**			
Igbulo (Bais) Hydroelectric Power Project/ Century Peak Energy Corporation/ Igbaras, Iloilo	5.1	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Confirmation of Commerciality-issued on 26 June 2013 GIS-issued by DOE on 14 August 2013 Ongoing submission of other reportorial requirements PROJECT PROGRESS Ongoing Construction	December 2017	January 2018 (Target Testing and Commissioning)

*Annex 6. **Private Sector Initiated Power Projects in Visayas (COMMITTED) as of 31 March 2016***

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
Villasiga HEP/ Sunwest Water & Electric Co., Inc./ Brgy. Igsoro, Bugasong, Antique **Cost: Php1.4B**	8.00	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Obtained the following: Water Permit - 19 February 2010, Reconnaisance Permit ECC-08 July 2010 BOI-24 November 2010 DOE Hydropower Service Contract -01 Feb 2010 LGU Endorsements DENR Environmental Compliance Certificate DOE CoCC-10 October 2014 FINANCIAL ARRANGEMENTS Financial Arrangement Secured from Bank OFF-TAKERS Energy Sales Agreement with Antique Electric Cooperative PROJECT PROGRESS 99.07 %-Construction and Interconnection	July 2015	April 2016
Cantakoy/ Quadriver Energy Corp./ Danao, Bohol	8.00	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS GIS-secured clearance from DOE on 11 July 2011 FINANCIAL ARRANGEMENT Financial Arrangement Secured PROJECT PROGRESS Construction on-hold due to conflict with LGU	June 2018	June 2018
Amlan/ Natural Power Sources Integration, Inc./ Amlan, Negros Oriental	0.8	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Confirmation of Commerciality-Issued on 25 September 2014 Submission of lacking requirements, permits in progress	November 2019	December 2019
SOLAR	**302.15**			
Miag-ao Solar Power Project/ COSMO Solar Energy, Inc./ Miag-ao, Iloilo	5.67	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Covered by Solar Energy Services (SESC No. 2013-09-036) on 31 October 2013 Declaration of Commerciality- filed on 26 September 2014 DOE Certificate of Commerciality- acquired on 12 January 2015 PROJECT PROGRESS Pre-Construction-100% Construction-100% Interconnection-100%	February 2016	April 2016
La Carlota Solar Power Project Phase A (SACASOL II-A)/ San Carlos Solar Energy Inc./ La Carlota City, Negros Occidental	18	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Covered by Solar Energy Service Contract (SESC No. 2013-09-037) on 30 October 2013; DOE Certificate of Confirmation of Commerciality-acquired on 01 April 2015 PROJECT PROGRESS Pre-Construction-94%	March 2016	April 2016 (Target Testing and Commissioning)

*Annex 6. **Private Sector Initiated Power Projects in Visayas (COMMITTED) as of 31 March 2016***

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		Construction-55% Interconnection-21%		
Cadiz Solar Power Project / Phil.Power Exploration & Development Corporation/ Brgy., Tinampa-an Cadiz City, Negros Occidental	132.5	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS DOE Certificate of Confirmation of Commerciality-acquired on 11 December 2014. Solar Energy Services (SESC No. 2013-06-035)-awarded on 3 July 2013; Solar Energy Services (SESC No. 2013-06-035)-awarded on 3 July 2013; Declaration of Commerciality-filed on 02 September 2014 PROJECT PROGRESS Pre-Construction-100% Construction-100% Interconnection-100%	March 2016	April 2016 (Target Testing and Commissioning)
Manapla Solar Power Plant Project (SACASOL III)/ Negros Island Solar Power Inc./ Manapla, Negros Occidental	48	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Covered by Solar Energy Service Contract (SESC No. 2014-05-080) on 10 June 2014; DOE Certificate of Confirmation of Commerciality-acquired on 10 November 2015 with SIS Clearance	March 2016	April 2016 (Target Testing and Commissioning)
Bais City Solar Power Project (SACASOL IV)/ Monte Solar Power Inc./ Bais City, Negros Occidental	25	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Covered by Solar Energy Service Contract (SESC No. 2014-09-090) on 15 September 2014; with SIS Clearance	March 2016	April 2016 (Target Testing and Commissioning)
La carlota Solar Power Project Phase A (SACASOL II-B)/ Negros Island Solar Power Inc./ La Carlota City, Negros Occidental	14	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Covered by Solar Energy Service Contract (SESC No. 2015-04-220) on 17 April 2015; with SIS Clearance	March 2016	April 2016 (Target Testing and Commissioning)
SACASUN Solar Power Project/ San Carlos Solar Energy Inc./ San Carlos City, Negros Occidental	58.98	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Covered by Solar Energy Service Contract (SESC No. 2015-05-226) on 14 May 2015; With SIS Clearance	March 2016	April 2016 (Target Testing and Commissioning)
WIND	**14.00**			
Nabas Wind Power Project Phase I - 34 Phase II-16/ PetroWind Energy Corporation/ Brgy. Pawa, Nabas, Aklan	14	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Wind Energy Service Contract-14 Sept 2009; Detailed Wind Resource Assessment-conducted; GIS-secured clearance from DOE on 16 September 2011; ECC-acquired from DENR dated 4 Jun 2012; Final Feasibility Study-Aug 2012; SIS Final Report from NGCP- 01 Oct 2012; CNO-acquired from NCIP; Barangay, Municipal, and Provincial Resolutions of Support-secured; and DOE Certificate of Confirmation of Commerciality-acquired the on 31 May 2013 FINANCIAL ARRANGEMENTS Financial Arrangement Secured-submitted certification dated 31 August 2012 from Lead Arranger, ensuring the required financing is already available if needed; Total project cost is US$118.44M;	Phase 1 (36 MW) - March 2015 (Operational since June 10, 2015) Phase 2 (14 MW) -Dec 2017	Phase 1 (36 MW) - June 2015 (Operational since June 10, 2015) Phase 2 (14 MW) -Dec 2017

*Annex 6. **Private Sector Initiated Power Projects in Visayas (COMMITTED) as of 31 March 2016***

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		Contracts for Plant and Equipment; and EPC Contract with EEI Corp. secured 31 Jul 2012 OFF-TAKERS Heads of Agreement with AKELCO for T/L construction secured 28 Nov 2012 PROJECT PROGRESS Ongoing Construction		

Total Committed Rated Capacity: 826.95

Source: DOE

Annex 7. Private Sector Initiated Power Projects in Visayas (INDICATIVE) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
COAL	**900.00**			
300 MW Therma Visayas Energy Project/ Therma Visayas Inc./ Brgy. Bato, Toledo City, Cebu **Cost: PhP23B**	300	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS GIS-clearance from DOE issued on 16 June 2012 (GIS study-approved); ECC issued last May 2013; BOI-registered; July 23, 2014 - SAPA issued for foreshore development works for coal jetty; Site feasibility - completed on May 2015; Land Acquisition for Completion; Applied CAAP Height Clearance permit; Contracts for Plant and Equipmen; and EPC Contract awarded last 30 May 2014 FINANCIAL ARRANGEMENTS Self-funded with on-going negotiations with financing institutions; awaiting closure; March 2016 - 3rd draw down OFF-TAKERS On-going discussions with target off-takers; Contracts for Plant and Equipment; and EPC Contract awarded to Hyundai Engineering Co., Ltd. and Galing Power & Energy Co., Inc. last May 30, 2014 PROJECT PROGRESS May 2015-site development works completed; and Aug 2015-Piling works for the Coal Unloading Jetty commenced	June 2017	Unit 1: December 2017 Unit 2: March 2018
2 X 150 SPC Expansion Coal Power Plant Project/ SPC Power Corporation/ Brgy. Colon, Naga City, Cebu	300	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS SIS-clearance from DOE issued on 09 March 2015	To be determined	To be determined
Ludo Coal-Fired Thermal Power Plant/ Ludo Power Corporation/ Cebu City	300	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS SIS-clearance issued by DOE issued on 11 Dec 2015	To be determined	To be determined
OIL	**10.00**			
Datem Energy Northern Samar Diesel Power Plant Project/ Datem Energy Corporation/ Northern Samar	10	FEASIBLITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS SIS-clearance issued by DOE on 12 Nov 2015	To be determined	To be determined
GEOTHERMAL	**40.00**			
Dauin Geothermal Project/ Energy Development	40	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Land-use permits for areas on public land-obtained (*site on public land but portions of access road leading to Site sits on private land);	December 2021	December 2021 (Target Testing

Annex 7. Private Sector Initiated Power Projects in Visayas (INDICATIVE) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
Corporation/ Dauin, Negros Oriental		DOE Service Contract Project Project within GRESC # 2009-10-002; LGU endorsement obtained; SLUP Obtained (subject for renewal); TCP Obtained; RRW Obtained; Water rights obtained; and DENR-ECC obtained FINANCIAL ARRANGEMENTS Ongoing negotiations on the financing		and Commissioning)
HYDROPOWER	**90.98**			
Timbaban Hydroelectric Power Project/ Oriental Energy and Power Generation Corporation/ Madalag, Aklan	18	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Confirmation of Commerciality-issued on 28 May 2013; and Submission of lacking requirements in progress	August 2017	May 2018 (Target Testing and Commissioning)
Loboc Hydroelectric Power Project/ Sta. Clara Power Corporation/ Loboc, Bohol	1.2	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Confirmation of Commerciality-issued on 3 June 2013; and Submission of lacking requirements in progress	June 2018	June 2018
Hilabangan (Lower Cascade)/ Century Peak Energy Corporation/ Kabankalan, Negros Occidental/	3.0	.FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS GIS-clearance to undertake issued by DOE on August 2013 Confirmation of Commerciality-issued on 28 August 2013; and Submission of lacking requirements in progress	August 2018	August 2018 (Target Testing and Commissioning)
Hilabangan (Upper Cascade)/ Century Peak Energy Corporation/ Kabankalan, Negros Occidental	4.8	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS GIS-clearance issued by DOE on August 2013; Confirmation of Commerciality-issued on 28 August 2013; and Submission of lacking requirements in progress	August 2018	August 2018 (Target Testing and Commissioning)
Main Aklan River Hydroelectric Power Project/ Sunwest Water & Electric Company, Inc./ Libacao, Aklan	15	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Confirmation of Commerciality-issued on 19 September 2013; and Submission of lacking requirements in progress	September 2018	September 2018
Maninila (Lower Cascade)/ Century Peak Energy Corporation/ San Remigio, Antique	4.5	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS GIS-clearance from DOE issued on August 2013; Confirmation of Commerciality-issued on 02 October 2013; and Submission of lacking requirements in progress	October 2018	October 2018 (Target Testing and Commissioning)
Maninila (Upper Cascade)/ Century Peak Energy Corporation/ San Remigio, Antique	3.1	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS GIS-clearance from DOE issued on August 2013 Confirmation of Commerciality-issued on 02 October 2013; and Submission of lacking requirements in progress	October 2018	October 2018 (Target Testing and Commissioning)

Annex 7. Private Sector Initiated Power Projects in Visayas (INDICATIVE) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
Sibalom (Upper Cascade)/ Century Peak Energy Corporation/ San Remigio, Antique	4.2	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS GIS-clearance from DOE issued on August 2013; Confirmation of Commerciality-issued on 02 October 2013; and Submission of lacking requirements in progress	October 2018	October 2018 (Target Testing and Commissioning)
Sibalom (Middle Cascade)/ Century Peak Energy Corporation/ San Remigio, Antique	4.0	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS GIS-Clearance from DOE issued on August 2013 Confirmation of Commerciality-issued on 02 October 2013; and Submission of lacking requirements in progress	October 2018	October 2018 (Target Testing and Commissioning)
Sibalom (Lower Cascade)/ Century Peak Energy Corporation/ San Remigio, Antique	4.0	-Issued Confirmation of Commerciality on 02 October 2013; -Clearance to Underatake GIS from DOE issued on August 2013; -Submission of lacking requirements e.g. permits in progress; and -On-going construction (Pre-construction -0%, Construction-0%, Interconnection-0%) completed as of 30 September 2014	October 2018	October 2018 (Target Testing and Commissioning)
Basak II/ Meadowland Developers, Inc./ Badian, Cebu	0.5	CONFIRMATION OF COMMERCIALITY-ISSUED ON 30 APRIL 2014 Submission of lacking requirements e.g. permits in progress PROJECT PROGRESS 16 February 2013-Groudbreaking	April 2019	April 2019 (Target Testing and Commissioning)
Amlan (Plant B)/ Natural Power Sources Integration, Inc./ Amlan, Negros Oriental	1.5	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Confirmation of Commerciality-issued on 11 July 2014; and Submission of lacking requirements in progress	July 2019	July 2019
Amlan (Plant A)/ Natural Power Sources Integration, Inc./ Amlan, Negros Oriental	3.2	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Confirmation of Commerciality-issued on 25 September 2014; and Submission of lacking requirements in progress	September 2019	September 2019
Amlan (Plant C)/ Natural Power Sources Integration, Inc./ Amlan, Negros Oriental	0.8	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Confirmation of Commerciality-issued on 25 September 2014; and Pending submission of requirements under development stage	September 2019	September 2019
Malugo/ Vivant-Malogo Hydropower, Inc./ Silay City, Negros	6	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Confirmation of Commerciality-issued on 15 October 2014; and Submission of lacking requirements in progress	October 2019	October 2019
Lower Himogaan/ LGU Sagay/ Sagay, Negros Occidental	4	On-going pre construction activities; and Submission of lacking requirements e.g. permits in progress	September 2020	September 2020
Caroan/ Antique electric Cooperative/ Sebaste, Antique	0.84	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Confirmation of Commerciality-issued on 30 September 2015; and Submission of lacking requirements in progress PROJECT PROGRESS On-going pre construction activities	September 2020	September 2020

Annex 7. Private Sector Initiated Power Projects in Visayas (INDICATIVE) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
Ipayo/ Antique electric Cooperative/ Sebaste, Antique	0.84	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Confirmation of Commerciality-issued on 02 October 2016; and Submission of lacking requirements in progress Project Progress On-going pre construction activities	September 2020	September 2020
Ilaguen 4/ Isabela Power Corporation/ Echague	10	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Issued Confirmation of Commercialization on October 02, 2015	October 2020	October 2020
Bansud/ Sunwest Water & Electric Company, Inc./ Bansud & Gloria, Oriental Mindoro	1.5	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Issued Confirmation of Commercialization on October 02, 2015	October 2020	October 2020
SOLAR	**263.20**			
Tigbauan Solar Power Project/ Solexar Energy International, Inc./ Brgy. Cordova Norte and Bantud, Tigbauan, Iloilo	30.2	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Covered by Solar Energy Service Contract (SESC No. 2014-06-082) on 14 July 2014	March 2016	April 2016
Biliran Solar Power Project/ E & P Green Energy, Inc./ Biliran, BIliran	48	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Covered by Solar Energy Service Contract (SESC No. 2015-03-117) on 25 March 2015	March 2016	April 2016
BIOMASS	**42.75**			
35.0 MW Mina Multi-Fuel Biomass Power Generation Facility/ Green Power Panay Phils., Inc./ Iloilo	33	For construction	Phase I - May 2017 Phase II May 2018	Phase I - May 2017 Phase II May 2018
12 MW Multi-Feedstock Biomass Power Plant Project/ Megawatt Clean Energy, Inc./ Negros Occidental	12	For construction	May 2018	May 2018
2.5 MW Rice Husk-Fired Biomass Power Plant Project/ Megawatt Clean Energy, Inc./ Leyte	2.25	For construction	July 2018	July 2018
BATTERY	**40.00**			
40 MW Battery Storage Project/ AES Philippines Power Partners Co., LTD./ Kabankalan, Negros Occidental	40	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS GIS-clearance from DOE issued on 31 January 2013; Option to lease-secured on 18 September 2013; Sangguniang Panlalawigan issued Resolution 98-2077 declaring the lot as industrial; Agreement for Easement Right of Way on Adjacent private land (for transmission)- executed on 14 January 2014	October 2016	December 2016 (Target Testing and Commissioning)

Annex 7. Private Sector Initiated Power Projects in Visayas (INDICATIVE) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		DOE COE-issued; GIS- approved on Aug 2014; DENR-ECC-approved on 28 Oct 2014; and Facility Study submitted on 12 Dec 2014 FINANCIAL ARRANGEMENT On-going negotiations with International/Local banks; and Proponent is planning to equity fund the Project CONTRACTS FOR PLANT AND EQUIPMENT On-going selection of Owner's Engineer for the Construction Contracts for Plants and Equipment		

Total Indicative Rated Capacity: 1,441.43

Source: DOE

Annex 8. Private Sector Initiated Power Projects in Mindanao (COMMITTED) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
COAL	**1,610.00**			
2 X 100 MW Southern Mindanao Coal Fired Power Station/ Sarangani Energy Corporation/ Brgy. Kamanga, Maasim, Sarangani **Cost: $450M**	200	FEASIBILITY STUDY: Completed ARRANGEMENT FOR SECURING THE REQUIRED LAND: On-going processing of the land conversion from agricultural lands where the plant is located to industrial use as declared by the Municipality of Maasim; Out of 28 hectares occupied by the power plant, 19 hectares were already converted and the balance of 9 hectares (for coal conveying system and ash ponds) is undergoing the process of conversion with DAR and other government entities. MARKETING OF GENERATING CAPACITIES: Power Sales Agreement for 105MW between Sarangani Energy Corporation and South Cotabato II is 70MW (SOCOTECO II), Davao del Norte is 15MW (DANECO), Agusan del Norte is 10MW (ANECO), and Agusan del Sur is 10MW (ASELCO) was executed 2011-2012; Please note that except for SOCOTECO1, all these offtakers will be supplied by Phase 1 of the SEC project in Maasim, Sarangani. Hence, Phase 1 is already fully contracted; SOCOTECO II Power Sales Agreement already has ERC final approval while those of ASELCO and ANECO have provisional approvals; and Still working on DANECO; SOCOTECO1 on the other hand will be supplied by Phase 2 of SEC. PERMITS AND OTHER REGULATORY REQUIREMENTS: ECC issued on April 2009 FINANCING ARRANGEMENTS: Financial Arrangement Secured on 12 December 2012 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: EPC Contract between Owner and Daelim Philippines, Inc. executed on 30 March 2011; Notice to Proceed to EPC Contractor issued on 28 December 2012; and SEC has complete and full support of its subsidiary companies, Conal Holdings Corporaion (CHC) and Alsons Consolidated Resources(ACR) COMMENCEMENT OF CONSTRUCTION: On-going Civil Works	Phase 1 - January 2016 (100MW) - on-going testing and commissioning Phase 2 – To be determined (100MW)	Phase 1 - April 2016 Phase II – To be determined
300 MW SMC Davao Power Plant Project (Phase I-1x150MW; Phase II-1x150MW)/ San Miguel Consolidated Power Corporation/ Brgy. Culaman, Malita, Davao del Sur **Cost:$630M / Php25.8B**	300	FEASIBILITY STUDY: Completed ARRANGEMENT FOR SECURING THE REQUIRED LAND: Land acquisition completed MARKETING OF GENERATING CAPACITIES: On-going electric power supply contract negotiation with prospective off-takers	Unit 1 - May 2016 Unit 2 -May 2016 *Note: remaining 900 MW still understudy	Unit 1 - June 2016 Unit 2 -June 2016 (subject for validation with EPC Contractor)

Annex 8. Private Sector Initiated Power Projects in Mindanao (COMMITTED) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		PERMITS AND OTHER REGULATORY REQUIREMENTS: Environmental Impact Assessment completed; Topographic and Hydrographic completed;Soil Investigation completed; Clearance to Underatake GIS from DOE issued on 29 August 2011; GIS/SIS already submitted to NGCP for review; NGCP returned the report to SMC GPHC with comments; Facility Study Status- Final report submitted last 27 Dec. 2013; Results are being used by NGCP for pre-construction works while SMC GPHC for right-of-way; and SEC issued last 26 August 2011; ECC issued in June 2013 GROUNDBREAKING SCHEDULES: Groundbreaking held last 15 July 2013. FINANCING ARRANGEMENTS: Financial Arrangement Secured from various banks on 12 May 2014. CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: EPC Contract executed on January 2013 and already awarded; Construction of the Project has been underway since August 2013; and Contracts for relative Works (Site Development, Pier and Jetty, Ship Unloader, Coal Conveying System already awarded) COMMENCEMENT OF CONSTRUCTION: On-going civil works construction/installation; and Target Completion Date of Transmission Connection on March 2016		
3 X 135 MW FDC-Misamis Circulating Fluidized Bed (CFB) Coal-Fired Power Plant Project/ FDC Utilities, Inc./ Phividec Industrial Estate, Villanueva, Misamis Oriental **Cost: PhP 30.019B**	405	FEASIBILITY STUDY: Project information Memorandum Completed ARRANGEMENT FOR SECURING THE REQUIRED LAND: Land acquisition completed (Leased Contract with PHIVIDEC Industrial Authority MARKETING OF GENERATING CAPACITIES: Contracted approximately 88% of the total net output of the 3 units of the project; Assumed Total Rated Output less Station-Use at 11% and Outage Allowance: 320MW; and Ongoing electric power purchase agreement negotiation with offtakers for the remaining capacity for the 3rd unit; MORESCO II - 25MW, MOELCI II-25MW, FIBECO-35MW; SOCOTECO I - 10MW;DASURECO-12MW, MORESCO I - 22MW, ANECO - 12MW, LANECO - 10MW, MOELCI I - 16MW, CAMELCO-4MW, SURNECO - 13MW, DORECO-6MW, SURSECO II - 10MW, DANECO - 15MW, BUSECO - 8MW, SOCOTECO II - 45MW, MCCI - 10 MW, COTELCO - 5 MW (TOTAL CONTRACTED CAPACITY -283MW)	1st Unit -March 2016 2nd Unit -March 2016 3rd Unit-June 2016	1st Unit - June 2016 2nd Unit - September 2016 3rd Unit-December 2016

Annex 8. Private Sector Initiated Power Projects in Mindanao (COMMITTED) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		PERMITS AND OTHER REGULATORY REQUIREMENTS: Secured Clearance from DOE for the conduct of GIS on 12 September 2011; Grid Impact Study (GIS) Review by NGCP completed; ECC for power plant issued on May 2013;ECC for transmission line was issued on August 2013; NWRB water permit for Tagoloan issued on September 2013; NWRB conditional water permit for cooling water at Macajalar Bay was issued; NCIP Certficate of Non-Overlap issued on February 2014; LGU endorsements from concerned provincial, municipality and barangays;Registered with the Board of Investments on August 2013;Secured Locational Clearance from Villanueva;Negotiation for Foreshore Lease was completed; and Right of Entry Permit was secured from Phividec;Right-of-Way clearance and acquisition are for issuance GROUNDBREAKING SCHEDULES: Groundbreaking ceremony was held in November 2013 FINANCING ARRANGEMENTS: Financial Arrangement Secured on 27 December 2013 with various Banks for phase I (Units 1 and 2) and phase II (Unit 3) of the project CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: Contract for Engineering, Procurement and Construction (EPC) was awarded in September 2013; and Tendering process of the first and most of second batch auxiliary equipment has been completed. COMMENCEMENT OF CONSTRUCTION: Ongoing construction works; Structural works and electro-mechanical equipment installation ongoing; Finished construction of Transmission Line; and Energized the Transmission Line		
3x55 MW Balingasag Thermal Power Plant (Circulating Fluidized Bed Combustion (CFBC) Coal-Fired Power Plant Plant)/ Minergy Coal Corporation/ Brgy. Mandangoa, Balingasag, Misamis Oriental **Cost: PhP23.9B**	165	FEASIBILITY STUDY: Conducted Feasibility study from February to September 2013 ARRANGEMENT FOR SECURING THE REQUIRED LAND: Land acquisition completed at Brgy. Mandangoa Balingasag, Misamis Oriental; Processing land titling on the acquired lots MARKETING OF GENERATING CAPACITIES: Provisional Approval was issued on September 2013 for PSA between the Owner and CEPALCO (embedded via double ckt 138 kV line)	Unit 1: July 2016 Unit 2: September 2016 Unit 3: November 2016	Unit 1: January 2017 Unit 2: March 2017 Unit 3: May 2017

Annex 8. Private Sector Initiated Power Projects in Mindanao (COMMITTED) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		PERMITS AND OTHER REGULATORY REQUIREMENTS: SEC Registered on February 2013; Certificate of Endorsement (No. 2013-07-007) issued on 1 August 2013; Issued the following regulatory: o Business Permit/Mayor's permit - 16 January 2013; o SEC Certiicate of Incorporation-18 February 2013; o DOE Certificate of Endorsement for ERC (No. 2013-07-007)-1 August 2013; o DPWH Excavation Permit-3 September 2013; o Balingasag SB Endorsement-7 October 2013; o Building permit (Access Road)-13 November 2013; o Permit to cut coconut trees-17 November 2013;DENR-ECC- 17 November 2013; o Zoning certification-25 November 2013;BOI Registration-4 December 2013; o Barangay Clearance-15 January 2014; o Mayor's Permit-16 January 2014; o BOC COR & Certification of Accreditation - 6 February 2014; o Building Permit (Power Plant)-19 June 2014; o Locational Clearance - 1 July 2014; o PPA Permit to construct private port facility-16 September 2014; and o Plumbing permit/Sanitary permit (power plant)-2014 ECC issued on 17 November 2013 FINANCING ARRANGEMENTS: Financial arrangement Secured from various banks (2x55MW secured on 22 January 2014, Additional 1x55MW secured on 26 May 2014 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: EPC contract was signed on September 2013 for 2x55MW (Supplemental Agreement to EPC Contract signed on 10 March 2014 for 1x55MW (NTP for 2x55MW on 30 Jan 2014,NTP foe 1x55MW on 29 May 2014); Site Evaluation completed on 14 August 2002; and Main EPC Contractor: Mitsubishi Corporation; Main Sub-contractor: Toshiba Plants Systemes * Services Corp. (TPSC) COMMENCEMENT OF CONSTRUCTION: On-going construction		
GNPower Kauswagan Ltd. 540MW Clean Coal-Fired Power Plant/ GN Power Kauswagan Ltd. Co./ Kauswagan, Lanao del Norte	540	FEASIBILITY STUDY: Completed ARRANGEMENT FOR SECURING THE REQUIRED LAND: GNPK and the land owners of the Project site are in the final stages of satisfying their respective obligations under the land purchase agreements	December 2017	March 2018

Annex 8. Private Sector Initiated Power Projects in Mindanao (COMMITTED) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
Cost: US$740 Million		MARKETING OF GENERATING CAPACITIES: Provisional Authority dated 28 April 2014 was issued for the approval of the Power Purchase and Sale Agreement among GN Power, AMRECO PSAG Corp. and 20 participating ECs; 330MW sold to ECs arranged by AMRECO PSAG;GNPK is currently negotiating with other ECs as well as non-DU customers for sale of additional capacity; received provisional authority from the ERC for all 20 paraticipating ECs PERMITS AND OTHER REGULATORY REQUIREMENTS: ECC issued on 14 March 2014; A multipartite monitoring team is being established pursuant to the ECC; Clearance to Underatake GIS from DOE issued on 28 June 2013; NGCP has completed the System Impact Study for 4x150MW (gross caoacity); Facility study to be performed next; Granted LGU Endorsement; Permits and Other Regulatory Requirements: All permits obtained under the name of of GNPower Ltd. Co (Permits assigned from GNPower Ltd.Co. to GNPower Kauswagan Ltd.Co., DENR Environmental Compliance Certificate, CAAP Height Clearance,DOE Clearance to undertake SIS for 3x125MW, DOE Certificate of Endorsement for NCIP Application for Certificate of Non-Overlap, Mindanao Development Auhority Endorsement, LGU Endorements); and Other permits obtained for the project: Clearance to Develop Port Facility;Permit to Drill) were transferred and assigned to the Project Company, GN Power Kauswagan Ltd. Co. by virtue of a Project Assignment/Agreement FINANCING ARRANGEMENTS: Financial Arrangement Secured on 28 May 2014; and Commitments from several lenders have been obtained and signed 23 December 2014 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: EPC contract was signed on 15 May 2014; and Construction Contracts for Plant and Equipment: Significant pre-Notice to proceed activities are being done by the EPC contractor at the site in China COMMENCEMENT OF CONSTRUCTION: NTP issued to the EPC contractor on November 2014;On-going construction; and Construction of temporary facilities, housing facilities and foundation design validation activities are on-going		
OIL	**38.74**			
11.9 MW Koronadal Diesel Power Plant (7 x 1.7MW)/ Supreme Power Corporation/Purok Garfin, Barangay Paraiso, Koronadal City	11.9	ARRANGEMENT FOR SECURING THE REQUIRED LAND: In the process of constructing the power plant at the site owned by SOCOTECO 1 MARKETING OF GENERATING CAPACITIES: Entered into an Electricity Supply and Transfer Agreement with South Cotabato I Electric Cooperative Inc. (SOCOTECO I) executed through a 15-year Build-Operate-Transfer contract between the two	January 2016	April 2016

Annex 8. Private Sector Initiated Power Projects in Mindanao (COMMITTED) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		PERMITS AND OTHER REGULATORY REQUIREMENTS: Obtained SEC Endorsement from DOE on 18 April 2013 GROUNDBREAKING SCHEDULES: Ground breaking was held 8 Jan 2015 FINANCING ARRANGEMENTS: Financing with DBP secured CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: EPC Bussbar Corporation COMMENCEMENT OF CONSTRUCTION: Construction started 12 January 2015 by Bussbar Corporation; and Construction works to be completed in 6 months		
5.2 MW Peakpower San Francisco, Inc. Bunker Fired Power Plant (PSI Expansion Project)/ Peakpower San Francisco, Inc./ San Francisco, Agusan del Sur	2.5	FEASIBILITY STUDY: Completed FINANCING ARRANGEMENTS: Financial arrangement Secured with bank certification	November 2016	December 2016
2x6.97 MW Peakpower Soccsargen, Inc. Bunker Fired Power Plant (PSI Expansion Project)/ Peakpower Soccsargen, Inc./ General Santos City, South Cotabato	13.94	FEASIBILITY STUDY: Completed FINANCING ARRANGEMENTS: Financial arrangement Secured with bank certification	October 2016	November 2016
2x5.2 MW Peakpower Budiknon, Inc. Bunker Fired Power Plant/ Peakpower Bukidnon, Inc./ Manolo Fortich, Bukidnon	10.4	FEASIBILITY STUDY: Completed FINANCING ARRANGEMENTS: Financial arrangement Secured with bank certification	March 2017	April 2017
HYDROPOWER	**131.80**			
Lake Mainit/ Agusan Power Corporation/ Jabonga, Agusan del Norte	25.0	PERMITS AND OTHER REGULATORY REQUIREMENTS: Clearance to Underatake GIS from DOE issued on 7 October 2012; and Submission of lacking requirements e.g. permits in progress. FINANCING ARRANGEMENTS: Financial Arrangement Secured	March 1, 2016	March 2016 (Target Testing and Commissioning)

Annex 8. Private Sector Initiated Power Projects in Mindanao (COMMITTED) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		COMMENCEMENT OF CONSTRUCTION: On-going construction		
Puyo Hydroelectric Power Project/ First Gen Mindanao Hydropower Corp./ Jabonga, Agusan del Norte	30	FEASIBILITY STUDY: Also submitted Feasibility Study and 5-Yr Work Plan ARRANGEMENT FOR SECURING THE REQUIRED LAND: HSC N0. 2009-10-005 PERMITS AND OTHER REGULATORY REQUIREMENTS: Issued Confirmation of Commerciality on 12 July 2013; and Already secured LGU Endorsements, DENR Certificate of Non-Coverage, NCIP Certificate and NWRB Permit GROUNDBREAKING SCHEDULES: Ground breaking held on 17 April 2013 FINANCING ARRANGEMENTS: Financial Arrangement Secured CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: EPC for main facilities for tender COMMENCEMENT OF CONSTRUCTION: Construction on hold as of April 2015 due to security threat in the area; and Project implementation on hold due to security threat in the area	July 2018	July 2018 (Target Testing and Commissioning)
Asiga/ Asiga Green Energy Corp./ Santiago, Agusan del Norte	8.0	PERMITS AND OTHER REGULATORY REQUIREMENTS: Issued Confirmation of Commerciality on 1 August 2014; Submission of lacking requirements e.g. permits in progress; and Secured DOE Endorsement to DAR to facilitate the processing of application for Land Use Conversion GROUNDBREAKING SCHEDULES: Groundbreaking held on 22 April 2015 FINANCING ARRANGEMENTS: Financial Arrangement Secured COMMENCEMENT OF CONSTRUCTION: On-going construction is 25% as of November 2015	August 2019	August 2019
Manolo Fortich I/ Hedcor Bukidnon, Inc./ Santiago, Bukidnon	43.40	ARRANGEMENT FOR SECURING THE REQUIRED LAND: HSC No. 2013-11-326	October 2019	October 2019

Annex 8. Private Sector Initiated Power Projects in Mindanao (COMMITTED) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		PERMITS AND OTHER REGULATORY REQUIREMENTS: On-going Pre-construction activities; Submission of lacking requirements e.g. permits in progress; and Secured DOE Endorsement to DAR to facilitate the processing of application for Land Use Conversion GROUNDBREAKING SCHEDULES: Groundbreaking held on 22 April 2015 FINANCING ARRANGEMENTS: Financial Arrangement Secured COMMENCEMENT OF CONSTRUCTION: On-going construction is 25% as of November 2015		
Manolo Fortich 2/ Hedcor Bukidnon, Inc./ Santiago, Bukidnon	25.40	ARRANGEMENT FOR SECURING THE REQUIRED LAND: HSC No. 2013-11-327 PERMITS AND OTHER REGULATORY REQUIREMENTS: On-going Pre-construction activities; and Submission of lacking requirements e.g. permits in progress FINANCING ARRANGEMENTS: Financial Arrangement Secured	October 2019	October 2019
SOLAR	**40.07**			
Kibawe Solar Power Project/ Asiga Green Energy Corp./ Brgy. Labuagon, Kibawe, Bukidnon	10.49	ARRANGEMENT FOR SECURING THE REQUIRED LAND: Covered by Solar Energy Services (SESC No. 2014-04-074) on 6 May 2014 PERMITS AND OTHER REGULATORY REQUIREMENTS: Acquired the DOE Certificate of Commerciality on 19 June 2015 FINANCING ARRANGEMENTS: Financial Arrangement Secured	January 2016	April 2016
Digos Solar Power Project Phase I/ Enfinity Philippines Renewable Resources, Inc./ Brgy. San Roque, Digos City, Davao del Sur	10	ARRANGEMENT FOR SECURING THE REQUIRED LAND: Covered by Solar Energy Services (SESC No. 2015-02-100) on 28 January 2015 PERMITS AND OTHER REGULATORY REQUIREMENTS: Acquired the DOE Certificate of Commerciality on 04 May 2015 FINANCING ARRANGEMENTS: Financial Arrangement Secured	March 2016	April 2016
Digos Solar Power Project Phase II/ Enfinity Philippines Renewable	19.58	ARRANGEMENT FOR SECURING THE REQUIRED LAND: Covered by Solar Energy Services (SESC No. 2015-02-100) on 28 January 2015	March 2016	April 2016

Annex 8. Private Sector Initiated Power Projects in Mindanao (COMMITTED) as of 31 March 2016

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
Resources, Inc./ Brgy. San Roque, Digos City, Davao del Sur		PERMITS AND OTHER REGULATORY REQUIREMENTS: Acquired the DOE Certificate of Commerciality on 11 June 2015 FINANCING ARRANGEMENTS: Financial Arrangement Secured		
BIOMASS	**14.20**			
3 MW Biomass Cogeneration Facility/ Philippine Trade Center, Inc./ Sultan Kudarat, Maguindanao	1.60	PERMITS AND OTHER REGULATORY REQUIREMENTS: Secured Clearance from DOE for the conduct of GIS on 13 March 2014 FINANCING ARRANGEMENTS: Financial Arrangement Secured COMMENCEMENT OF CONSTRUCTION: Operating for Own-Use	February 2015 (On-going Testing and Commissioning)	April 2016
3.5 MW Biomass Cogeneration System/ Green Earth Enersource Corporation/ Maguindanao	2.60	FINANCING ARRANGEMENTS: Financial Arrangement Secured COMMENCEMENT OF CONSTRUCTION: Operating for Own-Use	September 2015	May 2016
15 MW LPC Biomass Power Plant Project/ Lamsan Power Corporation/ Sultan Kudarat, Maguindanao	10.00	FINANCING ARRANGEMENTS: Financial Arrangement Secured COMMENCEMENT OF CONSTRUCTION: On-going construction	February 2016	April 2016 (Target Testing & Commissioning)

Total Committed Rated Capacity: 1,834.81

Source: DOE

*Annex 9. **Private Sector Initiated Power Projects in Mindanao (INDICATIVE) as of 31 March 2016***

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
COAL	**1,400.00**			
SMC Davao Power Plant Project Phase II/ San Miguel Consolidated Power Corporation/ Brgy. Culaman, Malita, Davao del Sur	600	FEASIBILITY STUDY: Completed ARRANGEMENT FOR SECURING THE REQUIRED LAND: Land acquisition completed PERMITS AND OTHER REGULATORY REQUIREMENTS: Secured DENR ECC (ECC-CO-1304-0010) on 18 June 2013; and On-going securing of permits and other regulatory requirements FINANCING ARRANGEMENTS: On-going negotiations for financing arrangements COMMENCEMENT OF CONSTRUCTION: On-going civil works construction/installation	Unit 1 (150MW) - 2016 Unit 2 (150MW) – 2016 Unit 3 (300 MW) - 2016	Unit 1 (150MW) - 2016 Unit 2 (150MW) – 2016 Unit 3 (300 MW) - 2016
Sibuguey Power Plant Project/ Philippine National Oil Company (PNOC-EC)/ Sibugay, Zamboanga	100	FEASIBILITY STUDY: Technical and economic feasibility study was completed in July 2011 PERMITS AND OTHER REGULATORY REQUIREMENTS: Eligible bidder for Transaction Advisor on 8 August 2012; On-going bid processing for the EIS consultancy leading to ECC application and other permits; processing of ECC requirements; and Clearance to Underatake GIS from DOE issued on14 October 2011 FINANCING ARRANGEMENTS: On-going negotiations for financing arrangements	September 2016	September 2016 (Target Testing and Commissioning)
SMC Davao Power Plant Project Phase II/ San Miguel Consolidated Power Corporation/ Brgy. Culaman, Malita, Davao del Sur	300	FEASIBILITY STUDY: Completed ARRANGEMENT FOR SECURING THE REQUIRED LAND: Land acquisition completed PERMITS AND OTHER REGULATORY REQUIREMENTS: On-going processing of ECC requirements; On-going securing of permits and other regulatory requirements FINANCING ARRANGEMENTS: On-going negotiations for financing arrangements	December 2018	December 2018 (Target Testing and Commissioning)
300 MW Coal Fired Power Plant Phase 1 - 2 x 100MW	300	FEASIBILITY STUDY: Final revised copy of Feasibility Study submitted on 15 July 2015	Phase 1 - 2 x 150MW -June 2018	Phase 1 - 1 x 150 MW - June 2019

*Annex 9. **Private Sector Initiated Power Projects in Mindanao (INDICATIVE) as of 31 March 2016***

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
Phase 2 - 1 x 100MW/ Ozamiz Power Generation, Inc./ Brgy. Pulot,Ozamiz City,Misamis Occidental **Cost: PhP 37.07 Billion**		ARRANGEMENT FOR SECURING THE REQUIRED LAND: Land acquisition is 95% complete; 5% of which are in the final process of negotiation; and Conversion of land from Agricultural to Industrial is on-going (as of 29 March 2016) MARKETING OF GENERATING CAPACITIES: As of March2016, still preparing all the necessary documents that can be required for purposes of complying with the directive of ERC and the DOE on CSP; Still in the process of marketing the electricity to the different cooperatives and were able to secure commitments with the various DUs (List of DUs with commitments: MAGELCO - 6MW; COTELCO-4MW;MOELCI 1 - 12MW, MOELCI 2- 11MW, SUKELCO - 5MW, BUSECO - 7MW, LANECO - 5MW, ZANECO- 6MW, ZAMSURECO 1 - 8MW, ZAMSURECO 2 - 5MW, MORESCO 1 - 8MW, MORESCO 2 - 8MW, ANECO - 7MW, CAMELCO - 5MW, ZAMCELCO - 6MW, TOTAL : 103MW); and Projections is to secure a minimum of 30MW of Contracts every 3 months starting October 2016. PERMITS AND OTHER REGULATORY REQUIREMENTS: Certificate of Endorsement (CoE) released on June 4, 2015; Environmental Clearance Certificate released on 15 October 2015 (ECC-CO-1502-0002); Approved Grid/System Impact Study released on 7 January 2016; Awaiting DOE issuance for Land-Use- Coversion Certificate of Urgency for DAR; Awaiting release of Certificate of Non-Coverage from NCIP, expected release on May 2016; NWRB Water Permit Application on-going, expected completion on May 2016; Certificate of Edorsement to BOI released on 5 February 2016;CAAP Certificate of Height Clearance released on 10 March 2015; and Facilities Study for Transmission Service Agreement for the Open Access Rules on-going; Applications for BOI, Bureau of Customes, Foreshore Lease Agreement, Tree Cutting Permit, PPA Clearance to Develop Private Port Facility, LGU Permits (Business,Fencing and Zoning Permits) all on-going GROUNDBREAKING SCHEDULES: Target date of groundbreaking for finalization, but site clearing and preparation works on-going FINANCING ARRANGEMENTS: Finalizing financing arrangements with different local and foreign banks CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: Completed Terms of Reference for Preliminary Design and Technical Provision for Detailed Design; and	Phase 2 - 1 x 150MW - June 2019	Phase 2 - 1 x 150 MW- June 2019

*Annex 9. **Private Sector Initiated Power Projects in Mindanao (INDICATIVE) as of 31 March 2016***

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		Detailed Site Development Plans and Detailed Engineering plans completed COMMENCEMENT OF CONSTRUCTION: Simultaneous construction of Unit No. 1 and 2 will commence upon financial closure with 34 months construction contract		
ZAM 100 MW Circulating Fluidized Bed (CFB) Coal-Fired Power Station/ San Ramon Power Inc./ Sitio San Ramon, Bgry. Talisayan, Zamboanga City **Cost: $292 Million**	100	FEASIBILITY STUDY: On-going Feasibility Study ARRANGEMENT FOR SECURING THE REQUIRED LAND: Land Lease Agreement with ZamboEcozone signed on 28 January 2013 MARKETING OF GENERATING CAPACITIES: On-going negotiations with ZAMCELCO for baseload supply; Power Sales Agreement for ZAMCELCO is 85MW, and ZAMSURECO 1 is 10MW; and Awaiting for the ERC approval of PSAL with ZAMCELCO PERMITS AND OTHER REGULATORY REQUIREMENTS: Environmental Clearance Certificate released on 20 March 2012 (ECC-CO-1112-0021); and On-going securing permits GROUNDBREAKING SCHEDULES: Ground breaking held on 27 January 2013 FINANCING ARRANGEMENTS: On-going sourcing of financing the project CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: EPC Contract between Owner and Daelim Philippines, Inc. executed on 27 December 2012	To be determined	To be determined
GEOTHERMAL	**40.00**			
Mindanao 3 Geothermal Power Project/ Energy Development Corporation/ Kidapawan, North Cotabato	40.0	FEASIBILITY STUDY: On-going Feasibility Study; Resource assessment and studies in optimal power plant capacity ARRANGEMENT FOR SECURING THE REQUIRED LAND: The project is within the DOE Service Contract -GRESC# 009-10-004 PERMITS AND OTHER REGULATORY REQUIREMENTS: DENR ECC obtained; Land use permits obtained; LGU Endorsement on-going; Water right secured; On-going preparation of DENR requirements for TL FLAg; Water rights	June 2018	June 2018 (Target Testing and Commissioning)

*Annex 9. **Private Sector Initiated Power Projects in Mindanao (INDICATIVE) as of 31 March 2016***

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		secured; Turnkey Contracts pending result of feasibility study; Clearance to Underatake GIS from DOE issued on 7 June 2012 FINANCING ARRANGEMENTS: On-going sourcing of financing the project PROJECT COST: Project cost is subject to the result of the feasibility study		
HYDROPOWER	**575.09**			
Bubunawan Hydroelectric Power Project/ First Gen Mindanao Hydropower Corp./ Baungon and Libona, Bukidnon	23	FEASIBILITY STUDY: Submitted Feasibility Study and 5-Yr Work Plan PERMITS AND OTHER REGULATORY REQUIREMENTS: Issued Confirmation of Commerciality on 02 July 2013; and Already secured LGU Endorsements, DENR Environment Compliance Certificate , NCIP Certificate and NWRB Permit;Clearance to Underatake GIS from DOE issued on 28 September 2012; Bids and tendering for the EPC started on April 2014 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: On-going Pre-construction activities	July 2016	July 2016 (Target Testing and Commissioning)
Limbatangon Hydroelectric Power Project/ Turbines Resource & Development Corp./ Cagayan de Oro City, Misamis Oriental	9	FEASIBILITY STUDY: Submitted Feasibility Study, Detailed Engineering Design, and 5-Yr Work Plan PERMITS AND OTHER REGULATORY REQUIREMENTS: Issued Confirmation of Commerciality on 12 July 2013; and Already secured LGU Endorsements, DENR ECC, and NCIP Certificate FINANCING ARRANGEMENTS: Financial Arrangement Secured COMMENCEMENT OF CONSTRUCTION: On-going construction; and Construction of Access Road completed	January 2018 (Target Testing and Commissioning)	January 2018 (Target Testing and Commissioning)
Tagoloan/ First Gen Mindanao Hydropower Corp./ Impasugong & Sumilao, Bukidnon	39	PERMITS AND OTHER REGULATORY REQUIREMENTS: Issued Confirmation of Commerciality on 02 July 2013 CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: Pending submission of requirements for construction	June 2018	June 2018
Culaman Hydroelectric Power Project/ Oriental Energy and Power Generation Corporation/ Manolo Fortich, Bukidnon	10	PERMITS AND OTHER REGULATORY REQUIREMENTS: Issued Confirmation of Commerciality on 03 June 2013; Clearance to Underatake GIS from DOE issued on 5 October 2012; and Submission of lacking requirements e.g. permits in progress	June 2018	June 2018 (Target Testing and Commissioning)

*Annex 9. **Private Sector Initiated Power Projects in Mindanao (INDICATIVE) as of 31 March 2016***

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		COMMENCEMENT OF CONSTRUCTION: On-going Pre-construction activities		
Cabadbaran Hydroelectric Power Project/ First Gen Mindanao Hydropower Corp./ Impasugong & Sumilao, Bukidnon	9.8	PERMITS AND OTHER REGULATORY REQUIREMENTS: Issued Confirmation of Commerciality on 02 July 2013; and Already secured LGU Endorsements, DENR Environment Compliance Certificate, NCIP Certificate of Non-Coverage, NCIP Certificate and NWRB Permit '-Submission of lacking requirements e.g. permits in progress COMMENCEMENT OF CONSTRUCTION: On-going Pre-construction activities	July 2018	July 2018 (Target Testing and Commissioning)
Tumalaong Hydroelectric Power Project/ First Gen Mindanao Hydropower Corp./ Baungon, Bukidnon	9	FEASIBILITY STUDY: Submitted Feasibility Study and 5-Yr Work Plan PERMITS AND OTHER REGULATORY REQUIREMENTS: Issued Confirmation of Commerciality on 2 July 2013; Already secured LGU Endorsements DENR Certificate of Non-Coverage, and Conditional Water Permit COMMENCEMENT OF CONSTRUCTION: On-going Pre-construction activities	July 2018	July 2018 (Target Testing and Commissioning)
Pasonanca/ Philcarbon, Inc./ Zamboanga City	0.50	PERMITS AND OTHER REGULATORY REQUIREMENTS: Issued Confirmation of Commerciality on 09 January 2014; and Submission of lacking requirements e.g. permits in progress COMMENCEMENT OF CONSTRUCTION: On-going Pre-construction activities	January 2019	January 2019 (Target Testing and Commissioning)
10 MW Cabulig-2 Hydroelectric Power Plant Project/ Mindanao Energy Systems, Inc./ Jasaan, Misamis Oriental	10.00	PERMITS AND OTHER REGULATORY REQUIREMENTS: On-going permits and other regulatory requirements completion	December 2018	March 2019
Clarin/ Philnew Hydro Clarin, Misamis Occidental Power Corporation/ Clarin, Misamis Occidental	5.00	PERMITS AND OTHER REGULATORY REQUIREMENTS: Issued Confirmation of Commerciality on 09 April 2014; and Submission of lacking requirements e.g. permits in progress COMMENCEMENT OF CONSTRUCTION: On-going Pre-construction activities	April 2019	April 2019
Mat-i-I/ Philnew Hydro Power Corporation/ Claveria, Cagayan de Oro	2.00	PERMITS AND OTHER REGULATORY REQUIREMENTS: Issued Confirmation of Commerciality on 09 April 2014; and Submission of lacking requirements e.g. permits in progress COMMENCEMENT OF CONSTRUCTION: On-going Pre-construction activities	April 2019	April 2019

*Annex 9. **Private Sector Initiated Power Projects in Mindanao (INDICATIVE) as of 31 March 2016***

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
New Bataan/ Euro Hydro Power (Asia) Holdings, Inc./ New Bataan, Compostela Valley	2.40	PERMITS AND OTHER REGULATORY REQUIREMENTS: Issued Confirmation of Commerciality on 24 April 2014; and Submission of lacking requirements e.g. permits in progress COMMENCEMENT OF CONSTRUCTION: On-going Pre-construction activities	April 2019	April 2019 (Target Testing and Commissioning)
Mangima Hydroelectric Power Project/ Philnew Hydro Power Corp./ Manolo Fortich, Bukidnon	10	PERMITS AND OTHER REGULATORY REQUIREMENTS: Issued Confirmation of Commerciality on 3 September 2014; and Pending submission of requirements for construction	September 2019	September 2019 (Target Testing and Commissioning)
Mat-i-2/ Philnew Hydro Power Corporation/ Cagayan de Oro, Misamis Oriental	1.60	PERMITS AND OTHER REGULATORY REQUIREMENTS: Issued Confirmation of Commerciality on 3 September 2014; and Submission of lacking requirements e.g. permits in progress COMMENCEMENT OF CONSTRUCTION: On-going Pre-construction activities	September 2019	September 2019 (Target Testing and Commissioning)
Mat-i-3/ Philnew Hydro Power Corporation/ Cagayan de Oro, Misamis Oriental	3.25	PERMITS AND OTHER REGULATORY REQUIREMENTS: Issued Confirmation of Commerciality on 3 September 2014; and Submission of lacking requirements e.g. permits in progress COMMENCEMENT OF CONSTRUCTION: On-going Pre-construction activities	September 2019	September 2019 (Target Testing and Commissioning)
Maladugao River (Upper Cascade)/ UHPC Bukidnon Hydro Power I Corporation/ Wao, Bukidnon	5.50	PERMITS AND OTHER REGULATORY REQUIREMENTS: Issued Confirmation of Commerciality on 12 January 2015; and On-going permitting	January 2020	January 2020
Maladugao River (Lower Cascade)/ UHPC Bukidnon Hydro Power I Corporation/ Kalilangan & Wao, Bukidnon	10.00	PERMITS AND OTHER REGULATORY REQUIREMENTS: Issued Confirmation of Commerciality on 14 April 2015; and On going permitting CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: Pending submission of requirements for construction	April 2020	April 2020 (Target Testing and Commissioning)
Lanon (Lam-alu)/ Euro Hydro Power (Asia) Holdings, Inc./ Lake Sebu, South Cotabato	9.50	PERMITS AND OTHER REGULATORY REQUIREMENTS: Issued Confirmation of Commerciality on 14 April 2015; and On going permitting CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: Pending submission of requirements for construction	May 2020	May 2020 (Target Testing and Commissioning)
Silo-o/ Philnewriver Power Corp./ Malitbog, Bukidnon	3.29	PERMITS AND OTHER REGULATORY REQUIREMENTS: Issued Confirmation of Commerciality on5 June 2015; and On going permitting	June 2020	June 2020 (Target Testing and Commissioning)

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NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: Pending submission of requirements for construction		
Agus III/ Maranao Energy Corporation/ Pantar & Balo-I, Lanao del Sur & Lanao del Norte	225.00	CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: Pending submission of requirements for construction	July 2020	July 2020 (Target Testing and Commissioning)
Malitbog/ Philnewriver Power Corp./ Malitbog, Bukidnon	17.85	CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: Pending submission of requirements for construction	September 2020	September 2020 (Target Testing and Commissioning)
Maramag/ Maramag Mini-Hydro Corp./ Maramag, Bukidnon	1.40	CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: Pending submission of requirements for construction	September 2020	September 2020 (Target Testing and Commissioning)
Manupali/ Matic Hydropower Corp./ Valencia, Bukidnon	9.00	CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: Pending submission of requirements for construction	September 2020	September 2020 (Target Testing and Commissioning)
Pulanai/ Repower Energy Development/ Valencia, Bukidnon	9.00	CONSTRUCTION CONTRACTS FOR PLANTS AND EQUIPMENT: Pending submission of requirements for construction	December 2020	December 2020 (Target Testing and Commissioning)
Kitaotao1/ Hedcor Bukidnon, Inc./ Bukidnon	150.00	ARRANGEMENT FOR SECURING THE REQUIRED LAND: Covered by Solar Energy Services (HSC No. 2015-05-569); and On-goiing study to determine the final scheme for development and final capacity of the project; FINANCING ARRANGEMENT: Parent Company will undertake to provide financial support PERMITS AND OTHER REGULATORY REQUIREMENTS: Permits on process for Project Site and on-going IEC MARKETING OF CAPACITIES: To be determined CONSTRUCTION OF FACILITY: To be undertaken after acquisition of permits	2021	2021
SOLAR	**106.00**			
GenSan Solar Power Project Phase I/ Del Sol Energy CGS, Inc./ General Santos City, South Cotabato	48	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Covered by Solar Energy Service Contract (SESC No. 2015-02-106) on 28 January 2015; and	March 2016	April 2016

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NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		DOE Certificate of Confirmation of Commerciality-acquired on 22 September 2015		
GenSan Solar Power Project Phase II/ Del Sol Energy CGS, Inc./ General Santos City, South Cotabato	48	FEASIBILITY STUDIES, PERMITS AND OTHER REGULATORY REQUIREMENTS Covered by Solar Energy Service Contract (SESC No. 2015-02-107) on 28 January 2015; and DOE Certificate of Confirmation of Commerciality-acquired on 03 August 2015	March 2016	April 2016
10 MW San Francisco Solar Power Project/ GPower Inc./ San Francisco, Agusan del Sur **Cost Including Pre-Operating Expenses:** **PhP641 Million or $14.2 Million**	10	ARRANGEMENT FOR SECURING THE REQUIRED LAND: Covered by Solar Energy Services (SESC No. 2015-09-252) on 29 December 2015; To be located from the existing primary transmission line of the local distribution utility, the ASELCO and 6 KM from the San Francisco substation and ASELCO main office; and Currrently completing documentation for selected location for the project PERMITS AND OTHER REGULATORY REQUIREMENTS: Requested DOE Endorsement to NCIP for Certificate of NOn-Overlap on 29 January 2016; and ECC approved on March 2016 MARKETING OF GENERATING CAPACITIES: On-going negotiation for Bilateral Contract Arrangement with ASELCO through CSP FINANCING ARRANGEMENTS: On-going finalization for financing arrangements	December 2016	December 2016
BIOMASS	**69.60**			
10MW Kalilangan Bio-Energy Corp. Multi-Feedstock Power Generating Facility/ Kalilangan Bio-Energy Corp./ Bukidnon	9.00	PERMITS AND OTHER REGULATORY REQUIREMENTS: Clearance to Underatake GIS from DOE issued on 28 January 2014 COMMENCEMENT OF CONSTRUCTION: For construction	August 2016	August 2016
10MW Don Carlos Bio-Energy Corp. Multi-Feedstock Power Generating Facility/ Don Carlos Bio-Energy Corp./ Bukidnon	9.00	COMMENCEMENT OF CONSTRUCTION: For construction	August 2016	August 2016
12 MW Biomass Power Plant Project/ Misamis Oriental Bio-Energy Corporations/ Misamis Oriental	10.80	MARKETING OF GENERATING CAPACITIES: Clearance to Underatake GIS from DOE issued on 6 June 2014 COMMENCEMENT OF CONSTRUCTION: For construction	October 2017	October 2017
10MW Malay-balay Bio-Energy Corp.n Multi Feedstock Generating Facility/ Malaybalay Bio-Energy Corp./ Bukidnon	9.00	PERMITS AND OTHER REGULATORY REQUIREMENTS: Secured Clearance from DOE for the conduct of GIS on 28 February 2014 FINANCING ARRANGEMENTS: Financial Arrangement Secured	December 2017	December 2017

*Annex 9. **Private Sector Initiated Power Projects in Mindanao (INDICATIVE) as of 31 March 2016***

NAME OF THE PROJECT/PROJECT PROPONENT/LOCATION	RATED CAPACITY (MW)	PROJECT STATUS	TARGET TESTING & COMMISSIONING	TARGET COMMERCIAL OPERATION
		COMMENCEMENT OF CONSTRUCTION: Operating for Own-Use; and On-going construction		
23.5 MW EPC Woody Biomass Power Plant Project / Eastern Petroleum Corporation/ Agusan del Norte	21.00	FINANCING ARRANGEMENTS: Financial Arrangement Secured COMMENCEMENT OF CONSTRUCTION: For construction	December 2017	December 2017
12 MW Napier Grass-Fired Biomass Power Plant Project/ Manolo Fortich Biomass Energy Corporation/ Bukidnon	10.80	FINANCING ARRANGEMENTS: Financial Arrangement Secured COMMENCEMENT OF CONSTRUCTION: For construction	Janury 2018	January 2018

Total Indicative Rated Capacity: 2,190.69

Source: DOE

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
Camarines Sur I Electric Cooperative, Inc. (CASURECO I) ERC CASE NO. 2014-147 RC	**FORCE MAJEURE CAPITAL PROJECTS (2014)**			
	Repair, restoration, replacement, and/or rehabilitation of distribution lines, facilities and equipment damage by Typhoon Glenda	After sustaining considerable damage from the onslaught of Typhoon Glenda on 15 July 2014, immediate repair and restoration were made of CASURECO I's distribution lines, facilities and equipment, 69 kV lines and substations, offices and main headquarters. The project was needed in order to restore electric power and achieve a safe and reliable power supply in the affected areas of CASURECO I.	62,175,021.54	30 September 2014/ 10 November 2015
Batangas I Electric Cooperative, Inc. (BATELEC I) ERC CASE NO. 2014-168 RC	Repair, restoration, replacement and/or rehabilitation of the cooperative's buildings and offices, distribution lines, poles, distribution transformers, hardware, protection equipment, and accessories damaged by Typhoon Glenda.	The Project was undertaken for the immediate restoration of power to the entire BATELEC I coverage area after sustaining considerable damage from Typhoon Glenda. The restoration and repair works could prevent further outages in BATELECI's network, reduce power interruption in the typhoon-hit areas, and maintain safe, reliable, secure, and efficient operation of the distribution utility.	7,550,840.63	12 November 2014/ 26 November 2015
Aklan Electric Cooperative, Inc. (AKELCO) ERC CASE NO. 2014-019 RC	**FORCE MAJEURE CAPITAL PROJECTS (2014)**			
	Reconstruction, repair, restoration, replacement, and/or rehabilitation of distribution lines and accessories , equipment and building structures damaged by Super Typhoon Yolanda	The reconstruction, repair, restoration, and rehabilitation works were immediately implemented after the typhoon subsided and estimated to be completed by 31 March 2014. AKELCO completed the CAPEX projects on 30 March 2014. Immediate repair of AKELCO's damaged facilities caused by Super Typhoon Yolanda on 8 November 2013 was implemented in order to restore power and maintain safe, reliable, secure and efficient operation of the power system.	144,673,844.53	06 March 2014/ 10 December 2015
Aklan Electric Cooperative, Inc. (AKELCO) ERC CASE NO. 2014-010 RC	**EMERGENCY CAPITAL EXPENDITURE PROJECTS (2013)**			
	Installation of Main Protection Devices (15.5 kV Microprocessor-controlled Reclosers), 15 kV Steel Structures and Preventive Maintenance Servicing of 10 MVA Caticlan Substation	Refurbishment of 10 MV A Caticlan Substation in preparation for re-energization. Erection of galvanized steel structures as replacement to the existing dilapidated wooden substation structures. Acquisition and installation of brand new microprocessor-controlled reclosers for Caticlan Substation feeders' main over-current protections. Overloading and oil leakages at the 25 MVA Boracay Substation necessitate the re-energization of the Caticlan Substation. The Caticlan Substation's wooden structures at the 13.2 kV side are already rotten. One of the feeders' main protective devices had been damaged since 2009 while the operational reclosers were deemed underrated considering the increased fault current level at the AKELCO Substations.	4,146,000.00	10 February 2014/ 10 December 2015
	Installation of Main Protection Devices (15.5 kV Microprocessor-Controlled Reclosers) and Steel Towers and	Erection of 69 kV and 13.2 kV foundations and galvanized steel structures as replacement to the existing dilapidated wooden substation structures. Transfer of equipment to its new foundations. Acquisition and installation of brand new main over-current protection (Microprocessor-controlled Reclosers) for Nabas Substation feeders.	4,146,000.00	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	Structures for the 5 MVA Nabas Substation	The Nabas Substation's 69 kV and 13.2 kV structures were made up of timber and already rotten. One of the feeders' main protective devices incurred un-repairable damages in September 2013 while the other operational reclosers were deemed underrated considering the increased fault current level at the AKELCO Substations.		
	Installation of Main Protection Devices (15.5 kV Microprocessor-Controlled Reclosers) for the 5 MVA Lezo Substation	Acquisition and installation of brand new main over-current protection (Microprocessor-controlled Reclosers) for Lezo Substation feeders including one (1) set of spare protective device. One of the feeders' main protective device incurred un-repairable damages on July 2013 while the other operational reclosers were deemed underrated considering the increased fault current level at the AKELCO Substations.	4,146,000.00	
	Installation Main Protection Devices (15.5 kV Microprocessor-controlled Reclosers) and Steel Towers and Structures for 5 MVA Altavas Substation	Erection of 69 kV and 13.2 kV galvanized steel structures as replacement to the existing dilapidated wooden substation structures. Acquisition and installation of brand new main over-current protection (Microprocessor-controlled Reclosers) for Altavas Substation feeders. The Altavas Substation's 69 kV and 13.2 kV structures were made up of timber and already rotten. One of the feeders' main protective devices incurred un-repairable damages in September 2013 while the other operational reclosers were deemed underrated considering the increased fault current level at the AKELCO Substations.	4,146,000.00	
	Repair, Testing and Re-Commissioning of 13.2 kV XLPE Power and Fiber 0ptic Boracay-Caticlan Submarine Cable	Repair, termination, testing, and re-commissioning of the 13.2 kV XLPE Power and Fiber Optic Submarine Cable connecting Boracay and Caticlan that was damaged by a cargo barge on July 15, 2013. Portion of Boracay Island's power demand must be supplied by the 10 MVA Caticlan Substation to augment the critically loaded Boracay Substations.	2,226,756.00	
Quezon I Electric Cooperative, Inc. (QUEZELCO I) ERC CASE NO. 2015-009 RC	**FORCE MAJEURE EVENT CAPITAL EXPENDITURE PROJECTS (2015)**			
	Repair, restoration, replacement, and/or rehabilitation of distribution system, facilities and accessories, and building structures damaged by Typhoon Glenda	Immediately after the calamity, repair and restoration works were undertaken on its distribution lines, facilities and equipment in the entire coverage area. It alleviated its consumer's power predicament by expediting the restoration of its service to reduce the duration of power interruption.	111,740,561.78	20 January 2015/ 10 December 2015
Misamis Oriental I Rural Electric Service Cooperative, Inc. (MORESCO I) ERC CASE NO. 2013-062 RC	Immediate repair and restoration of MORESCO 1's distribution facilities after sustaining considerable damage from Typhoon Pablo last 04 December 2012.	The project was needed in order to restore MORESCO 1's distribution facilities after sustaining considerable damage from Typhoon Pablo last 4 December 2012. The restoration works prevented further outages in MORESCO 1's network, has reduced power interruption in the typhoon-hit areas, and maintained safe, reliable, secure, and efficient operation of the power system.	4,843,174.15	04 April 2013/ 10 December 2015

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
Pampanga I Electric Cooperative, Inc. (PELCO I) ERC CASE NO. 2013-078 RC	**NETWORK PROJECTS**			22 April 2013/ 10 December 2015
	Procurement of one (1)unit 10MVA as replacement to 5MVA power transformer at Sta. Monica Substation in San Luis.	To accommodate the projected demand increase of Sta. Monica substation	9,000,000.00	
	Rehabilitation/Revamp of Primary and Secondary Lines in the following areas: GROUP I A. Sta. Cruz, Magalang B. Poblacion, Sta. Cruz, MagaJang C. Pasig - Poblacion, Candaba D. Sto. Domingo, Mexico - San Juan, Sta. Ana E. Poblacion - San Isidro, Sta. Ana F. Sta. Maria, Mexico - Poblacion, San Luis G.Outgoing Feeder 31 in Pandacaqui, Mexico H. Sto. Nino, Magalang I. San Agustin, Candaba GROUP II J. Pitabacan to Balitucan in San Ildefonso, MagaJang K. Sto. Tomas - Sta. Cruz Pambilog, San Luis L. San Juan - ViJliongco Irrigation, San Luis M. San Sebastian - Sta. Cruz Pambilog, San Luis N. ParaJaya- Gulap, Candaba O. Sta. Maria, Sta. Ana P. Balasticio, Turu, Magalang Q. San Agustin Sur, Arayat, R. Purok 2, 3 & 4, Lacquios, Arayat	To ensure safety of the consumers and the general public	27,602,633.00	
	Procurement and installation of 4-Switching Devices for Looping the following Feeder Lines: A. Feeder 14 (Sto. Domingo) and Feeder 51 (Sta. Monica)	To improve the reliability of the abovementioned feeders		

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	B. Feeder 31 (Pandacaqui) and Feeder 61 (San Nicolas) C. Feeder 11 (Sto. Domingo) and Feeder 21 (Plaza Luma) D. Feeder 13 (Sto. Domingo) and Feeder 73 (Lagundi)			
	Purchase of 500 square meter lot for the relocation of San Nicolas Substation in Magalang. The power transformer, 69kV breaker, switchgear, metering equipment, and disconnect switch will be transferred to ad' acent lot after its acquisition.	To provide safety and security		
	OTHER NETWORK PROJECTS			
	KWh meters for New Customer Connections and In-Service Meter Calibration Plan	The new customer connections were determined based on the forecasted number of residential consumers in 2014 and 2015. The forecasting model used was discussed in item 3.1 System Forecast. While the In-service calibration plan were determined from the in-service calibration plan.	1,652,319.00	
	Service Drop for New Residential Connections	The new customer connections were determined based on the forecasted number of residential consumers in 2014 and 2015. The forecasting model used is discussed in item 3.1 System Forecast. While the In-service calibration plan were determined from the in-service calibration plan.	899,040.00	
	Distribution Transformers	The forecasted quantities of distribution transformers were based on PELCO I's warehouse records on the annual procurement of its distribution transformers from the past years, 2010 to 2012.	6,185,500.00	
	NON-NETWORK PROJECTS			
	Renovations in the Administrative Building: 1) General Manager's Office; 2) Replacement of Floor Tiles, Restrooms, Kitchen; and 3) Renovations of Ceilings.	To improve the efficiency service of PELCO I	1,250,000.00	
	Construction of Covered Parking Area in Main Office Building and 4 Area Offices	To improve the efficiency service of PELCO I	1,650,000.00	
	Construction of Front Building and Pathway Canopy and Front Fence with Gate at Magalang Area Office	To improve the efficiency service of PELCO I	650,000.00	
	Beautification/Landscaping of Staff House and Renovation/reconstruction of concrete fish pond	To improve the efficiency service of PELCO I	350,000.00	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	Construction of Pandacaqui Paying Station & Fabrication/ Installation of Detachable Steel for Substation Security Fence	To improve the efficiency service of PELCO I	750,000.00	
	Construction of Steel Bleachers at Coop's Evacuation Center	To improve the efficiency service of PELCO I	1,800,000.00	
	Renovations and Construction of Office Extension for Arayat Area Office	To improve the efficiency service of PELCO I	1,800,000.00	
	Information and Communication Technology Equipment Procurement and Installation of sixty (60) landline 2015 telephone units at the following PELCO I's Departments and Area offices; and Supply of sound system, audio equipment, micro hones and accessories.	To improve the efficiency service of PELCO I	1,300,000.00	
	Transportation Vehicles Supply of the following service vehicles: 1. Twelve (12) units, Brand New Drop Side Vehicles 2. One (1) unit, Closed Van for Testing Equipment 3. One (1) unit, GM's Service	To improve the efficiency service of PELCO I	9,800,000.00	
Antique Electric Cooperative, Inc. (ANTECO) ERC CASE NO. 2011-162 RC	**CAPITAL EXPENDITURE PROGRAM (2011-2015)**			29 November 2011/ 21 January 2016
	Uprating of Sibalom Substation from 5 MVA to 10 MVA	To prevent future downtime due to repairs and maintenance and to replace the ageing power transformer and upgrade its capacity to 10 MVA.	10,786,550.00	
	Procurement of 220 units of DT's of various capacity	To accommodate new customers of ANTECO	15,705,831.08	
	ANTECO Rehabilitation and Upgrading	Restoration and rehabilitation of ANTECO's distribution system damaged by Typhoon Glenda	10,298,054.76 (Government Subsidy)	
	Primary and Secondary Line expansion	Restoration and rehabilitation of ANTECO's distribution system damaged by Typhoon Glenda	16,173,180.62 (Government Subsidy)	
	Procurement of 17,067 units of kWh Meters	To accommodate new customers of ANTECO	18,819,530.00	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	Replacement of 13,623 units of old meter, 1,500 units of inaccurate meter, and 1,000 units of damaged meters	To reduce system loss	19,621,140.00	
	NON-NETWORK PROJECTS			
	Procurement of Line Maintenance Materials	Restoration and rehabilitation of ANTECO's distribution system damaged by Typhoon Glenda	2,441,170.48 (Government Subsidy)	
	SCADA at the Sibalom, San Jose, Hamtic and Culasi Substations	To improve ANTECO's monitoring and control of its distribution system	6,790,000.00	
	Acquisition of Lot: Laua-an, Tibiao, and San Remigio	The acquired lots are intended for the collection office and warehousing. The [proposed projects will provide ANTECO with a more spacious and convenient facility for its personnel and member-consumers	4,345,000.00	
	Construction/renovation of the following offices: San Jose Main Office, Valderrama, Sebaste, Laua-an, Tibiao, San Remigio, Culasi, Hamtic, and Bugasong	The said projects are necessary to provide a decent and aesthetically-enhanced office and existing structures of ANTECO	6,903,289.60	
Zamboanga Del Sur I Electric Cooperative, Inc. (ZAMSURECO I) ERC CASE NO. 2011-104	Acquisition of TRANSCO's 69 kV Subtransmission Assets	To address reliability and save on connection charges.	31,980,608.85	19 July 2011/16 February 2016
	Construction of 10-MVAsubstation in Brgy.Culo, Molave, Zamboanga del Sur	The Sandal Substation had breach the 100% loading limit. The feeders coming from the substation passes thru vegetation that causes power interruption and system loss.	29,224,012.00	
	Instalation of New 5-MVA Substation at Brgy. Tikwas, Dumalinao, Zamboanga Del Sur	To augment the existing San Miguel Substation	13,735,416.00	
	Establishment of 5-MVA Power Substtaion at Brgy. Upper Bayao, Tukuran, Zamboanga Del Sur	To address the power quality problem at Tukuran Feeder (FDR 31)	13,735,416.00	
	Installation of four (4) units of 69 kV SF6 circuit breakers to be installed in four substations, namely: Tiguma, Balangasan, San Miguel and Switch Substations coupled with the installation of a medium voltage switchgear, 15 kV, 6 KAIC, 110 kV BIL, 60 Hz, with SCADA-ready capability to complement with the installation of circuit breakers at 10 MVA Balangasan and 10 MVA Tiguma Substations.	The existing protection facilities of these substations are not coordinated with the protection settings of the TRANSCO/NGCP. The Philippine Grid Code requires the installation of circuit breaker at the connection point of substations.	16,175	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	Procurement, testing and installation 3-phase, 12 kA, 630A, EIL 110 kV, nominal 15 kV, vacuum automatic circuit reclosers (ACRs) at the midpoints of Mahayag, Pagadian East, Tambulig and Lenienza backbone lines	These devices shall be installed midstream (midpoint) of the backbone lines to sense, clear and isolate faulted lines and/or portions thereof. The existing protection failed to sense the minimum fault at the farthest end of the lines.	3,221,600.00	
	Re-routing, relocation, rehabilitation and up-rating of Pagadian East Feeder Backbone Line consisting of 3.536 km, 3- hase, 3.536 km under-built	Portions of Pagadian East Backbone line (around 3.5 kilometers) will be affected by road widening project of the Department of Public Works and Highways (DPWH), thus the need to re-route the said line.	5,219,388.00	
	Construction/ establishment of additional feeder at Balangasan Substation in addition to the existing three (3) feeders, namely; Pagadian West, Tie Line West and Dumalinao Feeders to split the load being carried by Pagadian West feeder.	The proposed feeder will serve portion of the coverage area of Feeder 43 Pagadian West Feeder and is expected to significantly relieve the load of Feeder 43. Currently, the optimal capacity in kW that can be carried by the Pagadian West Feeder based on the line sizing economics is only 490 kW while the load is alread 2700 kW .	4,738,015.00	
	Procurement of brand new 5, 10 and 15 KVA, low-loss distribution transformers for load splitting, load centering and replacement of identified inefficient, overloaded and under-loaded distribution transformers.	To accommodate new and additional customers and to effectively attain a more reliable & efficient Distribution Transformer Load Management	14,942,151.00	
	Procurement of 50,000 units of single-phase, 2W, class 10 electronic kWh meters for installation to new customers and replacement of old electromechanical kWh meters and 500 units of 3-phase electronic polyphase meters for commercial and industrial customers.	To provide distribution services and connections to its new customers.	20,515,966.00	
	Purchase of 2 units portable thermal scanners with high thermal sensing capability, colored LCD Display and computer USB interface	To identify location of "hot spot" in the distribution system	1,956,400.00	
	Purchase of five (5) sets of Load Logger	To improve efficiency	485,000.00	
	Procurement of Portable kWh Meter calibrator	The proposed project aims to increase the level of accuracy of member-consumers' billing meters and to be used for field testing and calibration of ZAMSURECOI's kWh meters.	328,000.00	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	Purchase of new power quality analyzing apparatus together with its accessories.	This is also part of the aggressive efforts of ZAMSURECOI to equip its technical personnel with advanced tools and equipment to boost their level of competence and capability.	555,459.00	
	Purchase of 69 kV hotline tools and equipment Proposed CAPEX	This is also part of the aggressive efforts of ZAMSURECO I to equip its technical personnel with advanced tools and equipment to boost their level of competence and capability.	3,892,294.00	
	Procurement of Electrical Network and Analysis Software	Precise evaluation and analysis of the problem within the distribution system of ZAMSURECO I	1,375,000.00	
	Procurement of three (3) units utility vehicle, van-type for line maintenance purpose	To increase mobility of the technical personnel of the cooperative.	2,496,720.00	
Manila Electric Company (MERALCO) ERC CASE NO. 2015-016 RC	**MAJOR CAPITAL EXPENDITURE PROJECTS FOR RY2016**			09 February 2015/ 12 April 2016
	Development of Malacañang 115 kV-34.5 kV GIS Substation involves the installation of one (1) assembly of three-phase 115 kV indoor-type Gas Insulated Switchgear (GIS) with five (5) vacuum circuit breakers, one (1) 83 MVA, 110 kVY-34.5 kVY-13.8 kVD, three-phase power transformer with OLTC, one (1) assembly of three-phase 34.5 kV indoortype Gas Insulated Switchgear (GIS) with seven (7) vacuum circuit breakers, one (1) 1.2 ohm, 630 A, 36 kV neutral reactor, and one (1) 34.5 kV, 14.4MVAR capacitor bank. Included is the corresponding 34.5 kV distribution lines configuration.	The development of Malacañang Substation would address the expected critical loading of Tegen 100 MVA bank no. 6 and Paco 83 MVA banks no. 1 and 2 at 75%, 76% and 75%, respectively. This new substation project within the Malacafiang compound will provide a long term solution to address the reliability of Malacafiang's power supply that experienced numerous power outage incidents in March and April of 2014 brought about by the long exposure of distribution lines from Paco and Tegen feeders. This project would also reduce annual system loss b 1,959,556 kWh.	435, 788,536.00	
	The expansion of Masinag Substation involves the installation of one (1) 83 MVA, 110 kVY-34.5 kVY-13.8 kVD, three-phase power transformer with OLTC, one (1) three phase 115 kV gas circuit breaker, two (2) 115kV disconnect switches, one (1) assembly of three-phase 34.5 kV indoor-type Gas Insulated Switchgear (GIS) with seven (7) vacuum circuit breakers, one (1) 1.2 ohm, 630 A, 36 kV neutral reactor, and one (1) 34.5 kV, 14-4 MVAR capacitor bank.	The expansion of Masinag substation would address the forecasted critical loading of Masinag and Parang 83 MVA transformer banks broguht about by the expected increase in demand in the areas served by these transformers. This project would also reduce system loss and improve system reliability by reducing the exposure of existing distribution feeders.	214,620,971.00	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	Included is the 34.5 kV distribution line reconfiguration and installation of remote controlled line switches.			
	The installation of 34.5 kV metalclad switchgear at LIIP 83 MVA power transformer bank no. 3 involves purchase and installation of one (1) assembly of three-phase 34.5 kV outdoor-type metalclad switchgear with seven (7) vacuum circuit breakers, one (1) 7.2 MVAR outdoor-type capacitor bank and construction of new control house. Included is the 34.5 kV distribution line reconfiguration and installation of remote controlled line reclosers.	The installation of 34.5 kV metalclad switchgear at LIIP 83 MVA power transformer bank no. 3 would address the critically loaded Sta. Rosa 83 MVA power transformer bank no. 3 and reliability issues in Laguna International Industrial Park (LIIP) and Laguna Technopark Inc. (LTI) as well as utilize the full capacity of the LIIP 83 MVA power transformer bank no. 3 by constructing two (2) new additional 34.5 kV feeders.	48,085,691.00	
	The development of the Lucena Substation involves the purchase of a 5,713 square meter lot in Brgy. Domoit, Lucena City, Quezon, construction of approximately 11 kilometers, three-phase 115 kV line, purchase and installation of one (1) 83 MVA, 110kVY-34.5kVY-13.8kVD three-phase power transformer with OLTC,one (1) 1.2ohm, 630 A, 36 kV neutral reactor, five (5) unit three-phase 115kV outdoor-type circuit breaker and ten (10) units 115 kV disconnect switches, one (1) assembly ofthreephase 34.5 kV outdoor-type metalclad switchgear with seven (7) vacuum circuit breakers and one (1) 7.2 MVAR outdoor-type capacitor bank. Included is the 34.5 kV distribution line reconfiguration and installation of remote controlled line reclosers.	The development of Lucena Substation would address the problem of the critically loaded Tayabas 83MVA transformer brought about by the expected increase in demand in the areas served by this transformer. This project would also reduce system loss, provide switching flexibility during outages and improve system reliability by reducing the exposure of existing distribution feeders in Quezon Province.	478,911,544.00	
	The expansion of Tabang Substation involves the purchase and installation of one (1) 33 MVA, 66 kVD-13.8 kVY three-phase power transformer with OLTC, three (1) unit of three-phase 69kV	The expansion of Tabang Substation will address the forecasted critical loading of Tabang power transformer bank no. 1 brought about by load growth and demand in tlle area. This project will provide operational switching flexibility during contingencies in the area and will improve voltage regulation and reduce system losses at existing in portions of Guiguinto and Malolos, Bulacan area.	162,082,948.00	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	outdoor-type circuit breaker, one (1) 69kV disconnect switch, one (1) 13.8 kV outdoor-type metalclad switchgear with six (6) vacuum circuit breakers and one (1) 3.6 MVAR outdoor-type capacitor bank. Included is the 34.5 kV distribution line reconfiguration and installation of remote controlled line switches.			
	The installation of 34.5 kV metalclad switchgear at NGCP-San Jose Substation involves purchase and installation of one (1) assembly of three-phase 34.5kV outdoor-type metalclad switchgear with seven (7) vacuum circuit breakers, one (1) 7.2MVAR outdoor-type capacitor bank and construction of new control house. Included is the 34.5 kV distribution line reconfiguration and installation of remote controlled line switches.	NGCP-San Jose Substation has a new 1-83 MVApower transformer installed by MERALCO with only two (2) feeders at the 34.5 kV secondary side. This power transformer is the replacement of a failed NGCP-owned 25 MVA power transformer. Presently, Camarin Substation with one (1) unit power transformer is already in critical loading condition brought about by load growth and customer applications in the area. This project will unload the critical loading of the above mentioned power transformer and will resolve the high Interruption Frequency Rate (IFR) of Camarin 435TC due to its long exposure approximately 129.6 kilometers, including two (2) new 34.5 kV feeders to the existing two (2) feeders. At the same time, it will replace the old oil circuit breaker and reclosers presently protecting the two (2) existing feeders.	63,122,508.00	
	The construction of San-Jose Delivery Point's 115kV Lines requires the construction of a total of 28.5 km 115kV lines using 2-795 MCM ACSR per phase to cut-in the NGCP-San Jose substation to Camarin-Novaliches 115 kV line. It also involves the installation of 115kV breakers and associated protection/control equipment and metering facilities at San Jose substation. The two new 115 kV lines will be constructed along different routes because constructing both lines along the shorter route is not feasible due to the narrow access road and very limited ROW easement. The project also involves the installation of power circuit breakers, appurtenant disconnect switches and metering equipment at San Jose substation.	To prevent the overloading of the power transformers at Duhat and Balintawak 230 kV-11SkV suhstations and the Bagbaguin-Balintawak l1S kV line in Sector 1 of MERALCO 11S kV system during N-1 contingency. Also, to optimize the available transformer capacity at San Jose 230 kV-11S kV substation since it will become a new delivery point substation in Sector 1.	580, 394,526.00	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	The construction of BF Paranaque-NAIA 3-Maliba 115kVLine requires the construction of a total of 12.88 km. 115 kV lines, of which are 12.08 km. underground line using 2-795 MCM ACSR per phase and 0.8 km. underground line using 2-1200 mm2 Cu XLPE per phase. The UG line is required due to the crossing of aviation flight path.	To prevent the overloading of Zapote-Pagcor 1 and Sucat-Sunvalley 11 kV lines during N-1 contingency.	336,277,849.00	
	Rebuilding Portion of LIIP-Balibago 115kV Line involves the rebuilding of 115 kV line from Balibago Substation up to South Luzon Expressway by uprating 1.8 kilometer portion of LIIP-Balibago 115kV Line from 1-795 MCM ACSR conductor per phase to 2-795 MCM ACSR conductor er hase.	The project involves the rebuilding of 115 kV line from Balibago Substation up to South Luzon Expressway by uprating 1.8 kilometer portion of LIIP-Balibago 115kV Line from 1-795 MCM ACSR conductor per phase to 2-795 MCM ACSR conductor per phase.	35,687,313.00	
	Relocation of facilities affected by C-6 Extension (Flood Control Dike Expressway). These PPP projects will affect the existing MERALCO subtransmission and distribution line facilities (poles, overhead conductors, insulators and accessories).	Completion of these relocation projects will ensure that the safety, flexibility and reliability performance of MERALCO's subtransmission and distribution facilities is not compromised in the long -term by these infrastructure projects.	Approval of the relocation of facilities affected by PPP projects. However, approval of the inclusion of cost as Capex shall be deferred until such time that MERALCO could justify that the cost should not be shouldered by DPWH. It is worthy to note the DPWH shouldered the cost of such relocation . project In the vicinity of the airport.	
	The Customer Outage Portal is a web portal that is made available to	The project is intended to provide the customers relevant outage information that includes geographical representation of the location of the outage/s, estimated time of restoration,	54,962,212.00	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	MERALCO customers in order to provide needed information on power outages. Customers will be updated on near real-time basis on the status of his service with MERALCO even without having to call the latter's Call Center hotline. In implementing this project MERALCO intends to use weh and mobile channels through interactive maps that customers may access on demand, as well as SMS and e-mail alerts automatically sent to customers' mobile devices whenever power interruptions affect their premises. MERALCOis also looking at integrating this service with social media sites in order to make it more convenient for customers to gain access to power outage reports or vice versa (i.e. report an outage online) especially during and after typhoons or calamities. Overall, this Portal will enhance MERALCO's comprehensive customer communication efforts in meeting the demands of its customers on the much-needed outage information.	no. of customers affected, etc. Scheduled power interruptions such as MLDs and prearranged interruptions (normally published in broadsheets) are summarized and overlaid in a GIS map that will help the customers mitigate the impact to their scheduled activities, businesses or operating plans, especially if these customers are commercial and industrial in nature. With various outage information at hand, the customers are able to plan and act in response to an outage. This outage portal project will also provide additional channels for outage reporting that leverages modern and widely-used devices such as smartphones, tablets, computer, etc. This will offer convenience on the way customers report an outage, especially during inclement weather when all the phone lines of MERALCO Call Center are clogged even if the latter operates 24x7. Not only the MERALCO customers but also the vital government agencies, media and emergency-response or other critical organizations will benefit from this portal project. Said organizations will also be iven access to the outa e ortal in order to keep them well-informed about ongoing restoration efforts, estimated restoration time, and other important information. Internally, MERALCObelieves that this new service platform will contribute to more efficient information dissemination especially during typhoons or calamities. By setting-up a Customer Outage Portal, MERALCO's assessment that it will able to reach out and provide the outage information needed by its 5.6 million customers, most especially during typhoon seasons, and at the same time, help it avoid investing in capacity extension of its existing Call Center facility from the surge of calls of its customers during tyhoons.		
	Energy Sourcing and Risk Management will develop MERALCO'scompetence to better serve its customers by establishing processes and systems to support the: Handling of voluminous transactions; Volatility of the market; Efficiency requirements; and Strategic planning, evaluation and execution of energy purchase based on fundamental and	The project will address the technological challenges that MERALCO faces with its Energy Resource Management (ERM) - the system currently used in Energy Sourcing Office.	97,381,494.00	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	comprehensive analysis of the market. It will also address processing requirements of front, middle and back office operations, at the same time, address requirements of risk management. Moreover, this project will aid MERALCO in decision-making, and will help in efficiently and effectively providing the electricity requirements of its customers. It shall likewise optimize the business processes around the scheduling, dispatch, delivery and accounting of power and the risks associated with these activities.			
	Acquisition of a Next Generation Firewall For Third Party-Hosted Applications is intended to acquire a Next Generation Firewall to support the infrastructure requirements for MERALCO to interface and integrate with third party hosted applications and systems.	If MERALCO does not acquire the solution, it will not have thecapability to leverage services available from third party-hosted applications, as its current architecture is not geared towards this. Moreover, the necessary capabilities to adapt to more advanced threats will not be there, thereby rendering it incapable of having the proper visibility and defense for potential attacks and compromise.	63,097,401.00	
	Repiacement of Call Center System (CTI, Voice Logger and Telephony Infrastructure) is for replacement of the existing Call Center system. Particularly, this consists of the following: Replacement of Nortel Contact Center Suite 6.0 which provides the Computer-telephony integration (CTI)fWeb services interfaces. It is comprised of the following modules: a) Contact Center Manager Server b) Contact Center Manager Administration	Equipment obsolescence upon reaching the Application Systems' useful life of five (5) years has been the main driver of this replacement project. In fact, this system has been in full operation for about 7 years and MERALCO has already received several notices from the system manufacturer cancelling its production and technical support on equipment/device and elements that comprise the system. Particularly: o Contact Center Manager (CCM) 6.0 for CSlOOOwas declared End of Life effective June 2012. It is also targeted for End of Services Support by June 30, 2015; o Media Processing Server release 3.0 was declared End of Life effective December 31, 2012; o Verint Audiolog was declared End of Maintenance (Termination of any support) effective December 31, 2015; o Nortel Call Pilot 600R was declared End of Manufacturer's Support for Hardware by February 7, 2014. It is also targeted for End of Services Support by February 7, 2017; and o Communication Server (CS) 1000 Rs.5 was declared End of Manufacturer's Support for Software by December 31, 2010. It is also targeted for End of Services Support by December 31, 2016.	120,418,762.00	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	c) Communication Control Tool Kit d) Contact Center Multimedia Replacement of Nortel Call Pilot 600R Release 5.0 which provides Voice, Fax, and Email services Replacement of Nortel MPS500 which is the interactive voice response (IVR) system and self-service solution a) Interactive Voice Response Application Server and Database; and b) Media Processing Server (MPS) Replacement of Verint Audiolog which provides voice logging (recording) and playback services; Replacement of Nortel Telephony Manager 3.2 which provides system management of the existing Call Center Infrastructure; Replacement of Short Messaging System which provides customer notification services through text messages; and Replacement of Nortel Telephony System (Nortel CS1000)	Verily, loss of communications with customers during service outage events would have an immense detrimental impact on customer service and satisfaction. As life threatening events are also reported through the Call Center system, equipment failure during these calamities may also affect customer safety. Moreover, the project will also provide improvements to the Call Center's operations to better serve its growing customer base, with evolving needs, in the years to come. The project will provide a facility to effectively handle non-traditional media transactions with customers (e.g. social media, web chat) as well as increase the efficiency in customer concern handling through a unified monitoring and reporting tool. The project will also implement the system in a highly available architecture with provisions for disaster recovery and business continuity. This will be attained through leveraging existing virtualization standards of the company.		
	Retail Competition and Open Access (RCOA) Meter Conversion Program)	The supply of additional 96,597 RCOA compliant meters, including necessary system expansion, licenses, and communication equipment will address the forecasted meter conversions in RY2016 for Phase 2 to Phase 6 customers, assuming ample power supply and mandatory contestability in RY2016 .	207,598,226.00 Note: The amount	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	- Continuation of the meter conversions in compliance to regulatory requirements related to (RCOA).		considered is only for 750 kW and above.	
	Expansion of the Advanced Metering Infrastructure to Support Prepaid Retail Electric Service (AMI-PRES) Expansion of the current capacity of the RF technology and AMI-IS system to serve the forecasted 100,000 additional activations in RY 2016. This includes 100,000 intelligent meters, 60 collectors, 180 routers, software licenses, telecoms equipment, hardware capaacity and integration.	The investment for additional meters, collectors, routers and system components would address the forecasted KLoad activations of 100,000 customers. This investment will allow the implementation of KLoad to Manila, Mandaluyong, Makati, Pasig, Cainta, Taytay and Angono. Over 10 years, this would provide customers with PhP5,247 million worth of savings.	781,262,598.00 Note: Approved subject to the provisions of the RDWR on deferred capital expenditure on major projects and optimization in its next reset.	
	Advanced Metering Infrastructure Project to support AMI-Postpaid - Development of Postpaid Plus system and commercial pilot to 5,000 and 40,000 customers in June 2016 and December 2016, respectively. - The Postpaid Plus system would leverage on the existing AMI-IS1, building on top of its existing functionalities. For the commercial pilot, PP+ would be deployed in areas with PRES coverage.	Provide customers an energy management tool that would help them understands and control their consumption without having to switch to prepaid lifestyle.	216,490,675.00 Note: This commercial pilot project will comply with AMI Rules.	
	Construction of MERALCO Center of Excellence on Power and Energy (MCOPE) Training Facility - The development of MERALCO Trammg facility involves the construction of	In the next five years, training requirements of engineers and analysts alone are projected to increase by as much as 100%. There are 872 developing talents occupying engineer and analyst positions who have to be intensively trained in the areas of Power Supply Management, Electric Utility Planning, Asset Management, Engineering Design, Electric Capital Project Management, Power System Protective Relaying, Power System Operations and Control, Power System and Engineering Analysis, Power Substation	150,000,000.00 Note: This project would facilitate the continuous building of competencies to	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	laboratories on Metering, Distribution Connection, SCADA, System Operations, and Information and Communications Technology (ICT); Simulation/Testing Areas on Substation, Distribution and Transmission and Subtransmission, training halls, an Energy Information Center, Auditorium and Computer Laboratories	Operations and Maintenance, Equipment Testing and Maintenance, Metering and Grid Automation and Operations Technology.	ensure a reliable workforce to support the local energy industry.	
	RESIDUAL CAPITAL EXPENDITURE PROJECTS FOR RY2016			
	Installation of Connection and Facilities to Serve National Authority (NHA) Projects Installations of Elevated Metering Center (EMC) accessories such as cable tie, metering frame and ICP modular with 5 kWh meter base for NHA projects. Installations of poles, towers, fixtures and primary cable for EMG NHA projects. Installation of pole mounted distribution transformers for EMC NHA projects. Installation of service drops for EMC NHA Projects. Purchase and installation of meters and consumer instrument transformers for EMC NHA projects.	To serve customers under the NHA projects, MERALCOneeds to invest in new line extensions that would require the installation of new poles and distribution transformers. To install additional meters, instrument transformers and other metering devices to address the 94,355 power connection requirements for government initiated housing projects under NHA. Thus, it is necessary to ensure having sufficient resources taking into consideration the maximum utilization of existing assets rior to addition of new facilities.	1,329,605,484.00 Note: NHA provided endorsement letter to MERALCO regarding PRES and EMC.	
	Installation of Connection and Metering Facilities to Serve New Customers	To serve new customers. This will address the forecasted increase of 2.91% in count of residential, commercial and industrial customers for RY 2016. This is necessary to ensure that the distribution system is responsive to the forecasted load growth and/or customer growth while all resources and assets are utilized efficiently and economically.	2,597,997,707.00	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	Installations of new distribution facilities including primary and secondary poles, insulators, cross arms, and guying. Installations primary and secondary cables. Installation of underground conductors and devices (underground primary and secondary line extensions) for new service applications. Installation of standard connection facilities. This also includes installation of primary conductors, protective devices, and disconnecting facilities for construction of polemounted primary metering and subtransmission primary metering services and secondary metering service (service drops). Purchase and installation of meters and consumer instrument transformers in order to serve the projected additional customers in Regulatory Year 2016 due to customer growth.	To address the demand for 145,649 customers based from customer growth. Thus, it is necessary to ensure having sufficient resources taking into consideration the maximum utilization of existing assets prior to addition of new facilities.		
	Distribution Line Reinforcement Projects Acquisition of new poles and poles fixtures for the construction, reconductoring and reinsulation of new lines, to address existing and foreseen network problems resulting from growing	To address MERALCO's distribution feeders that failed the loading and switching flexibility criteria.	747,727,423.00	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	consumer demand for electricity. Acquisition of overhead conductors and devices for the construction, reconductoring and reinsulation of new lines, to address existing and foreseen network problems resulting from growing consumer demand for electricity. Acquisition of underground conductors, or power cables, and related devices for the construction, reconductoring and reinsulation of new lines, to address existin and foreseen network problems resulting from growmg consumer demand for electricity. Upgrading of distribution transformers in conversion projects intended to address existing and foreseen network problems resulting from growing consumer demand for electricity. Acquisition of Information Technology Equipment to provide communication link for automation of line switches, in order to address existing and foreseen network problems resulting from growing consumer demand for electricity.			
	Uprating of Distribution Transformers	The installation ofthese projects to serve new customers will address the forecasted increase of 2.91% in customer count for RY2016. This load growth would require the installation of new transformers or replacement of existing transformers with higher ratings	184,479,912.00	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	- Replacement of old distribution transformers.	commensurate to the requirements of the customers and that would comply with voltage regulation requirement of the Energy Regulatory Commission (ERC).		
	Installation of Connection and Metering Facilities to Serve Socialized Housing Projects	Installations of Elevated Metering Center (EMC) accessories such as cable tie, metering frame and ICP modular with 5 kWh meter base for Socialized Housing Projects; Installations of poles, towers, fixtures and primary cable for Socialized Housing Projects; Installation of pole mounted distribution transformers for Socialized Housing Projects; Installation of service drops for Socialized Housing Projects; and Purchase and installation of meters and consumer instrument transformers for Socialized Housing Projects.	86,861,297.00	
	New Streetlights Application is intended to cater customer initiated flat rate streetlight applications from Local Government Units (LGUs) and Horne Owners' Associations (HOAs). New streetlight installations were deemed necessary for customers since these ensure road safety and security. Also, a well-lighted surrounding encourages extension of economic activities within the res ective areas.	To procure the required number of streetlights and accessories and to respond to customer initiated applications for streetlights. To comply with mandated customer service performance level and voltage regulation system requirement. Failure to provide such to the prospective customers shall result in unrealized sales and negative customer satisfaction.	44,709,412.00	
	Installation of Connection Facilities to Serve E-Vehicle Char in Stations involves the construction of primary poles and attachments for charging stations (Power Stations).	To usher in the entry of private charging stations and electric vehicles. This project will promote a cleaner and healthier environment.	30,540,992.00	
	Installation of connection and metering facilities to interconnect embedded generators involves the installation of necessary facilities to integrate renewable energy (RE) generating facilities into the MERALCO system. Pursuant to Republic Act No. 9513 (Renewable Energy Act of 2008) and its Implementing Rules and Regulations (IRR), "all stakeholders in the electric power industry shall contribute to the growth of the renewable energy industry ofthe country."	Necessary to meet the growing energy demand of customers or higher service level requirements. The implementation of load growth projects contributes to compliance to the mandated customer service performance level and voltage regulation system requirement. Failure to provide such to the prospective customers shall result in unrealized sales and negative customer satisfaction.	9,026,927.00	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	The integration of SOLAR RE generating facilities to MERALCO's distribution system shall include substation works such as Installation of electro-mechanical physical and controls, telecommunication system, SCADA equipment, distribution facilities and connection facilities for primary metering facilities. The Primary Metering Service specifically includes the following constructive units: 1) OHSW - Downlead wire and hardwares; 2) 115KV or 69 kV size no. 795 MCM ACSR (drake) phase conduct; 3) 115KV or 69 kV suspension insulators, hardwares and accessories; 4) 115KVor 69 kV post insulators, hardwares and accessories; 5) OHSW - 3 #5 CDClad Steel wire; 6) 115kV 3 #5 copper clad overhead shield wire; 7) 3 - Surge arresters (60 kV or 96 kV); 8) 3 - Surge arresters structures; and 9) Disconnectin facilities (115kVor 69 kV).			
	Replacement of ageing, damaged and defective distribution facilities RES-IC Construction of Retaining Wall Construction of secondary containment, oil pit and oil/water separator De-clogging and repair of drainage system	RES-1C The rehabilitation of control houses and GIS building will prevent the further deterioration of substation facilities due to exposure to the environment. The extension of perimeter fence, rehabilitation of substation gate, rehabilitation of perimeter fence, and gravel surfacing will provide safety and security of substation personnel as well as the substation equipment. The de-clogging and repair of drainage system will prevent the substation from being flooded. The waterproofing of switchgear will prevent the deterioration of the equipment. The construction of retaining wall at Gardner substation will provide protection to the substation equipment from perennial floods caused by the substation proximity to	2,035,318,384.00	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	Extension of Perimeter fence height Gravel Surfacing Rehabilitation of Control House, GIS Building, Perimeter Fence and Substation Gate Repair of Transformer Bay Gate Waterproofing of Switchgear RES-2B Installation of AVR at low side Installation of On-line OLTC Oil Filtering Equipment (Central and North Areas) Replacement of oil type OLTC diverter switch with vacuum type (Central and South Areas) Replacement of OLTC Motor Drive Unit (Central Area) Replacement of Thermal Indicators RES-3B Installation of Disconnect Switch 34.5 kV Replacements of Disconnect Switches (115kV and 34.5 kV) Replacement of GCB 115kV (Central and South Areas) Replacement of GCB 34.5 kV Replacement of Metalclad Switchgear Replacement of OCB (115kV, 13.8 kV and 34.5 kV) RES-3C Rehabilitation/Refurbishment of 115kV Gas Insulated Switchgear	Laguna bay. This project component was triggered by the floods caused by typhoon Ondoy and monsoon rains. The construction of secondary containment for oil spillage of old power transformer foundations will segregate and contain the oil waste at substation in compliance with environmental requirements. RES-2B Replacement of the old and malfunctioning OLTC of Calumpit Bank 1with a new OLTCwill result to an automatically regulated quality voltage output to customers. Replacement of the oil type OLTC diverter switch with a vacuum type OLTC diverter switch will provide cost savings from the expensive servicing and maintenance of the OLTC,which involves the replacement of oil and has the effect of transformer interruption. Replacement of the malfunctioning OLTC motor drive unit will ensure the reliable function of the OLTCto provide quality voltage to customers. Replacement of the thermal device (with defective switch contact) will allow for effective and efficient control of the power transformer coolin s stem, reliable thermal alarm and protection of the transformer from overheating. Installation of on-line OLTC oil filtering equipment will provide cost savings from the expensive servicing and maintenance of the OLTC,which involves the replacement of oil and has the effect of transformer interruption. RES-3B Replacement of the obsolete power Oil Circuit Breakers (OCB) with Gas Circuit Breakers (GCB) will improve reliability and reduce maintenance costs and construction space allotment. Aged and malfunctioning pneumatic-type and hydraulic-driven GCBs will also be replaced with new spring mechanism GCBs. Replacement of the Disconnect Switches (OS) will resolve the frequent interruptions of circuits served due to repairs, malfunctions, and contact overheating of OS. Installation of isolator switches for Siemens 8DAlO 34.5 kV GIS will solve the occurrence of prolonged interruption of the 34.5 kV bus and feeders in case there is a trouble at the station service power cables and bus PT's. Ensure reliability of substation equipment operation for safety and reliable power to customers. Rehabilitation or refurbishment of gas insulated switchgears will prevent further deterioration. This will effectively extend the useful life of these equipment due to the lubrication done, checking of all meters, adjusting and repairing of parts and replacement of parts if needed, thus, ensuring safe and reliable operation of the distribution system. It will also prevent damage to the power circuit breakers and equipment installed/housed inside the switchgears. It will also reduce interruptions.		

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	RES-4B Installations of Breaker Fail Relay and Main 2 protection Scheme Renewal of Substation Control System Replacement of 115kV Current Transformer at GMA Substation Replacement of surge arresters (3-12 kV, 3-192 kV, 3-30 kV, 3-60 kV and 3-96 kV) Replacement of Back-Up Ground Relay, Bank Overload Relay, Bus Differential Relay, Capacitor O/C Protection, Capacitor Overvoltage Relay (Alarm/Trip), Directional Overcurrent Relay (69 kV, 115kVand 230 kV), Distance Relay, Electro-Mechanical Transformer Differential Relay, GE/Westinghouse type Lockout relays, PT 115 kV, PT 34.5 kV, Recloser Switch Relay Upgrading of NGCP's 230 kV Line Protection RES-5B Replacement of RTU UPS Substation Meter-IED Renewal RES-5C Substation Automation Refurbishment RES-7B Installations of DS Controller, GPS Receiver, and three	The installation of breaker fail relays is to comply with the Grid Owner (NGCP) protection requirement. The replacement of obsolete electromechanical recloser relays used for feeder protection is imbedded in the replacement of the feeder protection with microprocessor relays to provide fast-reclosing and better setting coordination. The various protection relays which are to be replaced are malfunctioning intermittently or have exceeded the asset life of 10 years. These relays caused voltage complaints and power interruptions to customers during mis-operations. The replacement of these relays will improve service delivery and reliability of the distribution system. The replacement of the currently installed porcelain based surge arresters with polymer surge arresters will address the safety of personnel and the public from the debris of surge arrester explosion. Provide reliable system protection of substation equipment, safety of the substation working personnel and the public. These will benefit the customers for a more reliable power delivery. The upgrade/maintenance of metering and control equipment devices will ensure the continuous and reliable operation of the distribution system. RES-SB Upgrading of Substation Remote Terminal Unit (RTU) at various substations will provide an increase in capability of the RTU and the allocation for Substation Automation Spares will ensure the RTU's operational reliability. RES-SC The defective and ageing miscellaneous equipment, such as, the battery banks, battery chargers, capacitor banks, station service, distribution panels, and controlling devices located at various substations is essential to be replaced to provide continuous and reliable control of the substation protection system. The capacitor replacement will provide voltage quality output to customers. RES-7B Installation of three phase power source, GPS receiver, transient fault recorder, and DS controller will provide support to more efficient maintenance and operation of substation equipment. The transient recorder will provide real time data for the faster analysis of 115kV and up power system trouble/fault.		

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	phase power source (box J) for transformer repair Installations of Transient Recorder Relocation of Capacitor Bank Replacement of 115kV Capacitor Switcher Module Replacement of AC and DC Distribution Panel, Battery Bank, Battery Charger, Station Service and Transient Recorder RES-8B.1 Installation of overhead static wire Rehabilitation of dilapidated secondary facilities and service wire Replacement of crossarm with fiberglass crossarm Replacement of damaged cross-arm, insulator, and power cable Replacement of defective crossarm, EMC service drop, line capacitor and line insulator RES-9B.1 Installation of automatic circuit recloser, line surge arrester, overhead faulted, overhead static wire, pole grounding, system neutral Installation/replacement of system neutral Reconductoring to spacer cable system Replacement of damaged EMC service drop, fuse cut - out, load interrupting switch, power cable, service drop, and surge arrester	RES-8B.1 To address the elimination of expensive copper cables and substation grounded /insulation failure cables. Fiber optics is less expensive, need lesser space layout in field, and not affected with electromagnetic interferences. Improving the reliability of service to customers and poles affected by government projects and those facilities that pose risks or are inaccessible. Installation of communication alley-arms is intended to protect the integrity of the poles. RES-9B.1 Replacement of damaged and dilapidated poles and fixtures (upgrading per pole) due to exposure to severe environmental condition, accidents, and aging. The project will benefit the customers in terms of reliability of the electric system and public safety. The integrity of the subtransmission line would be guaranteed and the public would not be exposed to the possibility of breaking or failing pole structures. It will also eliminate line outages resulting from the insufficient electrical clearances of the lines to ground or to other structures. To ensure continuity of electric service and operation of business, MERALCO needs to have a provision for replacement of various essential overhead conductors and devices that were damaged or have failed due to material breakdown or other external factors such as typhoons, soil erosions, vehicular accidents, building constructions, and affected by foreign objects/materials. The damaged asset condition resulted in power outages. RES-9B.2 Ensure the integrity of the line hardware and materials insulating the energized electric lines to prevent exposure to the public. This will greatly benefit the customers in terms of reliability of the electric system and public safety. RES-10B Optimize the utilization of distribution system assets and ensure the continuous delivery of service in replacing ageing underground conductors and devices. RES-11B To ensure continuity of electric service and operation of business, MERALCO needs to have a provision for replacement of power cables that were damaged resulting in outages. RES-13B		

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	Replacement of defective automatic circuit recloser, crossarm, EMC service drop,equipment control, fuse cut out, line capacitor, load interrupting switch, and pole grounding Rehabilitation of dilapidated secondary facilities and dilapidated service wire RES-9B.2 Replacement of Insulators and Line Hardwares RES-lOB Replacement of ageing power cable RES-llB Installation of underground faulted circuit indicator Replacement of ageing power cable Replacement of damaged power cable Replacement of defective line capacitor and switchgear RES-13B Installation ofline capacitor Replacement of ageing line capacitor Replacement of defective automatic voltage regulator and line capacitor RES-14B.1 Replacement of defective instrument transformers	To ensure continuous delivery of distribution service and operation of business, MERALCO needs to have a orovision for various essential renewal projects on power conditioning equipment that were damaged or found with functional failure due to external factors (e.g., typhoon, vehicular accident). These residual projects shall ensure that the required level of voltage regulation and power factor on the distribution system is maintained to sustain the quality of electric supply and thus comply with the performance standards set by the industry Regulator and promote better quality of customer service. RES-14B Based from the historical of MERALCODelivery Point Incidents, MERALCO forecasts that there may likely be two (2) delivery point incidents in RY2016. Hence, MERALCOneeds to have (2) sets of instrument transformers (CTs and PTs) and other metering accessories devices (i.e. cabinets) available to be able to immediately respond to these failures in order to prevent prolonged outages and the need to resort or rely on estimated billing of MERALCOfrom the WESM. RES-15B.1 Installation of power conditioning equipment and replacement of overhead devices aimed at improving the reliability of service. RES-16B To ensure continuous delivery of distribution service, operation of business and strengthen reliability performance, MERALCOneeds to renew streetlight assets that were affected by material breakdown or damaged due to external factors; such as: typhoons and vehicular accidents. By RY2016, High Pressure Sodium (HPS) streetlights are estimated to be 212,854 or 83.17% of the total streetlights in the MERALCO franchise area. HPS streetlights serve as the mainstream of streetlight service offered by MERALCO. To address obsolescence of all mercury streetlight materials. RES-29B To cater customers with previously terminated contracts. These customers had their metering facilities retired resulting to the termination of their contract with MERALCO. Once these customers reapply for service, necessary metering facilities must be available to allow them to reconnect with MERALCO. This is in compliance with Magna Carta for Residential Electricity Consumers. To maintain accuracy, reliability, address customer complaints, as well as safety in providing metering services to its customers, MERALCOneeds to pull out meters in-		

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	RES-15B.1 Replacement of damaged load interrupting Switch Replacement of defective automatic circuit recloser, automatic voltage regulator and load interrupting switch RES-16B Replacement of damaged streetlights Replacement of Mercury streetlight RES-29B Non-Load Growth Customer Connections Replacement of meters recommended for laboratory test	service for laboratory test to determine if the meters and other equipment are still in working and accurate condition. This is in compliance with RA 7832, Magna Carta for Residential Electricity Consumers, and ERC Resolution 12, Series of 2009 - "Rules and Procedures for the Test and Maintenance of Electric Meters of Distribution Utilities.		
	Conversion to Elevated Metering Center (EMC) and rehabilitation of existinG facilities Rehabilitation of hazardous secondary facilities (connection facilities) Relocation of kWh meters to Elevated Metering Centers (connection facilities) Relocation of kWh meters to Elevated Metering Centers (meters)	RES-8B.l/RES-9B.l/RES-12B To replace cross arms, line insulators, other fixtures, overhead conductors and devices found to be damaged or have failed due to material breakdown or other external factors; such as typhoon, soil erosion, vehicular accident, building construction, and foreign object. To replace crossarms, line insulators, other fixtures, overhead conductors and devices found to be defective or in damaged condition, or pose risks and hazards to public safety, or had reached their asset lives. RES-29B To replace meters and metering devices in service due to: (a) suspect defective meters; (b) meters with broken cover seals or blurred covers; (c) non-load growth customer connections; (d) replacements for inspection & accuracy testing related activities; and (e) other replacements for com liance to regulatory requirements.	482,471,006.00	
	Replacement of poles RES-8B.1	RES-8B.1/RES-8B.2/RES-9B.1/RES-12B To replace poles found to be damaged or have failed due to material breakdown or other external factors; such as typhoon, soil erosion, vehicular accident, building construction, and foreign object.	456,287,862.00	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	Replacement of damaged, agemg and rotten poles Installation of intermediate pole for longspanning and low-sagging lines RES-8B.2 Replacement of Poles (Central, North, South Areas) RES-9B.1/RES-12B Replacement of damaged pole	To replace poles found to be defective, in damaged condition, or pose risks and hazards to public safe , or reached their asset lives.		
	Replacement of Distribution Transformer RES-11B Replacement of ageing and damaged padmounted distribution transformer Replacement of damaged vault-type distribution transformer RES-12B Replacement of ageing and damaged padmounted distribution transformer Replacement of damaged vault -type distribution transformer Replacement of a ein and damaged pole-type distribution transformer	RES-11B/RES-12B To replace line transformer found to be damaged or have failed due to material breakdown or other external factors; such as typhoon, soil erosion, vehicular accident, building construction, and foreign object. To replace line transformer found to be defective, in damaged condition, or pose risks and hazards to public safety, or distribution transformers that reached their asset lives.	365,955,421.00	
	Replacement of Conductors RES-8B.1/RES-9B.1/RES-11B Reconductoring of distribution transformer's bare primary leadwire to insulated conductor Reconductoring to aerial bundled and covered conductor Replacement of ageing aerial bundled conductor	RES-8B.1/RES-9B.1/RES-11B To replace overhead conductors and devices found to be damaged or have failed due to material breakdown or other external factors; such as typhoon, soil erosion, vehicular accident, building construction, and foreign object. To replace overhead conductors and devices found to be defective, in damaged condition, or pose risks and hazards to public safety, and overhead conductors and devices that had reached their asset lives	278,068,141.00	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	Replacement of ageing bare primary conductor Replacement of damaged bare primary, covered primary, grounding, neutral, secondary cablef/conductor Replacement of hazardous and old-standard overhead primary conductor			
	Replacement of Remote-Controlled Line Capacitor, Line Recloser, and Voltage Regulator Installation of remote-controlled line capacitor, voltage regulator and line recloser (RCLR)	To replace power conditioning equipment due to defective, in damaged condition, or pose risks and hazards to public safety. To replace power conditioning equipment that reached their asset lives and at risk are also included, as well as projects aimed at improvin the reliabili of service to customers.	248,151,039.00	
	Relocation of facilities affected by government project, inside customer premises and near creek canals.	To relocate existing distribution poles and fixtures affected by national and local government projects. MERALCO secures the appropriate national and local permits for the installation of poles along national and local roads. However, one of the provisions that is common among all the permits granted to MERALCO (and other utility companies) is that in the event the government entity that granted the permit requires the removal of the poles from the originally approved pole location, MERALCO must immediately relocate its facilities. These would require residual relocation projects that typically involve only a few poles.	158,080,549.00	
	Installation of Line and Equipment Cover Installation of distribution alley arm, line conductor cover and equipment cover	The use of line insulator covers will improve distribution reliability by preventing outages due to animal and foreign object contacts on the lines. On the other hand, the use of fiberglass crossarm as a standard material in MERALCO's distribution lines will improve the lines' insulation levels, leakage distances, and phaseto-ground clearances. The installation of distribution alley arm aims upkeep the distribution poles with regards communication wires and cable wires.	244,336,874.00	
	Replacement of Peak/Off-Peak (POP) meters.	To provide MERALCO's customers options on energy pricing scheme	14,621,616.00	
	Acquisition and Replacement of Information Systems Equipment	RES-15A.1 Provision of Master Stations for Additional Distribution Automation Remotes RES-15B.2 Replacement of the existing biometric security system and CCTV at the Radio Room on the 16th Floor of Lopez Bldg., MERALCO Center, to ensure proper security control and monitor access to critical communication systems housed within the said site	476,513,729	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
		RES-22A, RES-28A, and RES-34A These projects are combinations of projects to support Information Access, Telecoms Facility Security, and Corporate Applications that support the efficient and more secured operation of different offices within the utility. Acquisition and use of Next Generation Application Development Platform (Mash-ups) Acquisition of additional Fabric Interconnect and other connectivity requirements for GDC Acquisition of Configuration Monitoring Tool Acquisition of Middleware Management Tool Acquisition of Securi Analytics Tool Acquisition of Unified Workspace Licensing Acquisition of User Access Management Solution Acquisition of Virtualization Security Acquisition of Virtualized Environment Provisioning Tool Additional Microsoft True-up Licenses for servers Additional Microsoft True-up Licenses for workstations Additional Oracle Licenses (OEM, Options) -Networks, Retail and Shared BC/ABC Link/Medium Redundancy CMS-Management Information System Expansion Company-wide Contracts Monitoring & Management (C2M2) CRMSOFTWARE Data Analytics Software License Deployment of Video Conference Equipment for Enterprise and Sector Offices Differentiated Collection Strategy Expanded Enterprise Service Bus Expansion of Enterprise Wide Traffic Analysis System (EWTAS) - additional tapping points Phase 2 Expansion of Wireless LAN System in Sectors & Business Centers ICT Research and Development Integrated Audit Management System Mobility for Executive Approval Provision of Surveillance Cameras For Communication Rooms in Substations, Sectors and Repeater Sites Provision of Communication Facilities for Auxiliary Buildings in Sector Offices Provision of Video Streaming Infrastructure for Corporate Events and E-learning OnSApp - Online Service Application Additional End User Computer Equipment and Software Licenses RES-22B.2, RES-28B, and RES-34B Replacement of Data Capture Device (DCD) Replacement of User Computer Equipment		

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
		a) Replacement of Standard Desktops b) Replacement of Standard Laptops c) Replacement of Barcode Scanner d) Replacement of Plotter e) Replacement of Apple IMAC for SHARED Replacement of Servers and Storage Replacement of UPS Systems Renewal of Voice Logger Equipment Replacement of Software Application and Licenses a) Replacement of Application Transaction Response Time Monitoring Tool b) Replacement of Enterprise Management System for Application Availability and Service Level Management c)Renewal of Microsoft Enterprise Agreement for Desktops d)Renewal ofVMWare Licenses RES-22C/RES-28C/RES-34C Rehabilitation of Lopez Building Datacomm Rooms Acquisition of service units for different IT equipment a) Service Units for PC Workstations b) Service Units for Laptops c) Service Units for Plotters Service Units for Defective LAN for Business Offices Upgrade Of Physical Security System at the Disaster Recovery (DR) Facility Telecommunications Carrier Meet Me Room (MMR)		
	Acquisition and Renewal of IS Tools Acquisition of Unified Workspace Licensing Acquisition of Configuration Monitoring Tool Acquisition of Security Analytics Solution Additional Microsoft True up Licenses for servers Additional Oracle Licenses (OEM, Options) Renewal ofVMWare Licenses Auto CAD for MAC	Customer growth and demand requirements drive the need for additional equipment, licenses, and networks enhancements to serve MERALCO's customers.	194,276,778.00	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	Acquisition and Replacement of Communications Equipment Replacement of Communication Towers (30) Meters - 4 legged) for 4 sites Other Communication and Plant equipment BWA RSL Improvement OCI Materials, Tools and Spares for Telecom Customer Terminal Equipment Refurbishment of Sectors' Fiber Optic Campus Backbone Provision of Communication Facilities Provision of Telecomms Facilities Fiber Optic Network Reinforcement/Scope Expansion Project RTU Sites Link/Medium Redundancy Provision of IP Communication Facilities Replacement of Power System for Substations/Repeaters - Intelligent DC System Phase 1	RES-1B.1 Replacement of Communication Towers (30 Meters – 4 legged) for 4 sites - This replacement program in 4RP aims to address and meet the structural soundness of communication towers to properly uphold public safety. RES-6A.1 Fiber Optic Network Reinforcement/Expansion - This project aims to provide a Fiber Optic Cable communication link for selected substations for their SCADA requirement and to expand the capacity of existing Fiber Optic Cables that are almost 100% utilized to allow provision for spare capacity for transfer of data load to other fiber cores if and when fiber kinks and cuts are exPerienced from the existin links. Fiber cuts occurs when a Pole is down or a fiber cable segment is subjected to theft or tampering. RTU Sites Link/Medium Redundancy - This project aims to provide last mile radios, Fiber Optic Cable installations and/or additional multiplexer equipment, to achieve communications medium redundancy. On-site survey will be conducted to identify the best possible means (wired or wireless communications medium) of providing the redundant link. RES-6B RES 6B RY2016 projects are replacement projects of telecommunication systems and facilities within substations that have been found inadequate because of new technology or having reached the end of the industry Useful Life in the scheduled implementation year. The TDM-based connectivity in substations is not compatible with SCADA'snew requirement for IP transmission. The substation-grade switches and routers will replace the TDM-based connectivity to enable support for the IPSS plans of SCADA. This way, the SCADA LAN will become accessible in substations and the Substation Integrated Platform linked to various security IP cameras, IEDs and other substation devices can be supported. This is also in anticipation of the eventual implementation of an IEC61850 within substations. The replacement of rectifier/chargers and battery banks are intended to allow this equipment to meet, or even exceed, their 10 years economic life. The new modular power supply system will reduce footprint, improve reliability and simplify maintenance of DC power supply of ICT equipment. It will also enable tracking of the power supply status of critical equipment at highly critical sites for early detection of problems and prompt dispatch of personnel to minimize equipment downtime and loss of communication links.	135,028,156.00	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
		RES-23A RES 23A projects support the projected additional requirements of budget responsibility units (BRU), particularly voice communication requirements for new vehicles and employees. This is in line with the projected 3.3% Customer Count Growth Rate based on MERALCO'sAggregate Market Forecast. RES-23B RES-23B project aims to provide increased data link reliability for MERALCO's Broadband Wireless Access (BWA) radio communication links in these offices. With this project, the antenna system will be upgraded to achieve a higher fade margin of at least 20dB, which will result in higher system gain. Improving the Signal-to- Noise (SNR) levels will translate to higher equipment availability and ensure minimal downtime for business offices especially during operational service periods. RES-23C RES 23C project is a continuous allocation to support the Communications Systems. This is the budget allocation for capitalized maintenance materials, tools and spares for immediate response and restoration of Telecommunication Services. The value of any service unit or spare equipment lies in the savings in time and money from having the service unit/spare equipment available when needed most. This is a must, since Communication Systems play a vital role in Electric Service Delivery and Customer Service Operations. The result of not having these capitalized maintenance materials can be as devastating as broken service level agreements and most importantly, unsatisfied customers. RES-35A RES 3SA projects are combinations of projects to support Voice and Data Link requirements, Operational Efficiency of Communication Systems and other organization specific requirements for Business Centers and customer-facing sites that cater to customer needs and requirements.		
	Replacement of Desktop, Laptop, and Other Computer Peripherals Replacement of servers and storage Replacement of Standard Desktop Tablets	This project will replace data capture devices that have reached their economic life of 5 years. The replacement of MERALCO's equipment IS critical for the following reasons: Growth and changes in the business requirements in providing the customers' electric service requirements. To respond to the technological requirements, changes and obsolescence of equipment wherein replacement parts are harder to find and are costlier.	107,111,304.00	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	Replacement of Queuing System and Rover Equipment Replacement of Scanner Barcode Replacement of Scanners, Digitizers, Printers and Plotters x86 Server Replacement	To make available critical and up-to-date tools to the different organizations of the company in providing their output and services to their customers. To maintain up-to-date equipment necessary to promote employee efficiency particularly as the employees receive and process files that comes from external sources, such as suppliers, customers and other industry stakeholders who uses up-to-date equipment and software.		
	Renewal/Refurbishment Projects at Sectors/STS, BCs and MOC Non-electric projects (NEPs) are construction, replacement, refurbishment projects involving the whole or part of a structure/facility and its integral part/s including electromechanical equipment and all other appurtenances and provisions that are essential part ofthe structure for it to function as designed. Water Supply/Recycling/Drainage Minor Facilities Improvement Construction/Renovation of Facilities Building in Various MERALCO Locations Fire Protection, Safety, Security & Compliance Replacement/Rehabilitation of ACUs/ AHUs Site Development Construction/Renovation of Office Space Replacement/Rehabilitation of Other Electro Mechanical Equipment Fencing & Steel Works	Rehabilitation of comfort rooms for sanitary purposes, rehabilitation of fleet building and repair areas for continuous usability, fire suppression equipment for personnel and building safety, rehabilitation of perimeter fence for security purposes, structural retrofitting for building and personnel safety, improvement/rehabilitation of lineman's facilities, rehabilitation of transformer yards. Non-electric facilities support daily operations of all offices in the franchise area. Non-Electric project proposals are mainly for constructing new facilities and maintaining existing ones for operational efficiency, safety, security and cost savings. Projects such as construction/rehabilitation of cistern tanks, water tanks, septic tanks, sewerage/tertiary treatment plants, drainage lines, waste water lines etc. are needed to maintain sanitation quality in the compound. These projects are a necessity in modern buildings/facilities. Also, these projects support water conservation thru recycling wastewater. Facilities improvement projects such as floor elevation helps to mitigate the effects of flooding during rainy season. Construction of forward posts and extension offices improves logistical efficiency and response time. Installation of precision cooling system improves electromechanical system efficiency and reliability in Powerhouse; which in turn serves the major building's cooling and power systems. Other projects such as oil/water separator for STP and fire suppression system are basically requirements for environmental regulations and building safety. To replace projects of Communication Plant and Equipment within MOC, Sector Offices and Repeater Sites that have exceeded the industry Useful Lives.	475,775,102.00	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	Renewal of Air-Conditioning Equipment for Sector- Based Communication Equipment.			
	Transportation Equipment RES-19B Acquisition of new equipment to replace existing transportation assets using criteria based primarily on age, as well as the condition of these assets. RES-19C Major rehabilitation of various company-owned heavy vehicle trucks, including but not limited to body rehabilitation, engine overhaul, hydraulic rehabilitation, replacement of engine, replacement of power train, change of carrier, and retrofitting of mounted equipment. RES-32A Acquisition of new, additional transportation to augment the resources of the Business Centers. RES-32B Replacement of four (4) Passenger Cars and two (2) Utility Pickups.	RES-19B To replace various transportation equipment that are either defective, beyond repair or had exceeded their economic life. These transportation equipment are vital to ensure the high reliability, adequacy and efficiency of electric service, especially in restoring electric service during calamities/ disasters. RES-19C To replace various company-owned heavy vehicle trucks that are either defective, beyond repair or had exceeded their economic life. These heavy vehicle trucks are vital to ensure the high reliability, adequacy and efficiency of electric service, especially in restoring electric service during calamities/disasters. RES-32A To support MERALCO's direction to adopt electric-driven transportation, increase productivity and improve customer service in terms of faster response related to service applications and attending to customer concerns. These vehicles shall also be used in prospecting for new accounts, and accomplishing partnership agreements forged with the Business Center's respective communities and local government units (LGUs). RES-32B These projects are intended to replace various transportation equipment that are either defective, beyond repair or had exceeded their economic life. This transportation equipment are important to the operations of MERALCO since these are essential to meet customer service commitments in terms of response related to service applications and attending to customer concerns. These vehicles shall also be used in prospecting for new accounts, and accomplishing partnership agreements forged with the Business Center's respective communities and local government units (LGUs).	151,068,000.00	
	Infrastructure to Meet Customer Growth and. Requirements at Sectors/STS and MOC Construction/Renovation of Facilities Building Fire Protection, Safety, Security & Compliance Minor Facilities Improvement	Rehabilitation of comfort rooms for sanitary purposes, rehabilitation of fleet building and repair areas for continuous usability, fire suppression equipment for personnel and building safety, rehabilitation of perimeter fence for security purposes, structural retrofitting for building and personnel safety, improvement/rehabilitation of lineman's facilities, rehabilitation of transformer yards. To supply and install surveillance systems/CCTV systems that will provide security and monitoring of assets in various MERALCOowned locations. Additionally, the installation of these CCTVsystems will aid in acquiring or gathering evidence should there be a security breach.	185,772,031.00	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	Replacement/Rehabilitation of ACUs/AHUs Replacement/Rehabilitation of other electromechanical Equipment Site Development Water supply/recycling/drainage Supply & Installation of CCTV at Sectors Supply & Installation of CCTV at STS			
	Laboratory Tools and Test Equipment (LTTE) RES-21A Acquisition of various new or additional laboratory and field testing and measuring instruments and equipment for the commissioning and maintenance of distribution assets. RES-21B Acquisition of various laboratory and field test and measuring instruments and equipment which are replacements for those being used in the performance of regulated distribution services. RES-33A.1 Acquisition of an additional I-Station Polyphase Stationary Meter Test Equipment. RES-33A.2 Acquisition of an additional Digital Clamp Multimeter 600A for RY 2016 for Balintawak Sector Metering Services.	RES-21A To address the demands of a growing customer base in terms of operational efficiency, power quality, regulatory/statutory requirements and safety. Further, with the construction of new and/or the expansion or upgrade of existing circuits, substation and distribution facilities in response to an increasing customer base, it is necessary that new technology and additional instruments be acquired to ensure reliabili and efficienc of electric service. RES-21B To replace laboratory tools and test equipment because they are either defective, obsolete or has exceeded their economic life. These equipment are vital to the operations of the distribution system, especially in the monitoring of the condition of the installed distribution facilities. RES-33A.1 To perform test and verification of single-phase and poly-phase energy meters referred for laboratory test, specifically for smart meters. To confirm load currents of new customers to ensure that these load currents are captured properly by the metering facility for the accurate registration of energy consumption. To provide adequate volume of accurate and reliable meters that can be used in billing the electric consumption of new and existing MERALCO customers. RES-33B.2 To replace selected laboratory tools and test equipment because they are either defective, obsolete or had exceeded their economic life. These equipment need to be replaced to continuously provide services such as load profiling, power quality monitoring and meter field testing.	103,514,188.00	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	RES-33B.1 Acquisition of laboratory tools and test equipment to replace defective, obsolete units and those which have exceeded their economic life and are no longer repairable. RES-33B.2 Replacement of various laboratory tools and equipment currently being used in providing regulated retail services to customers. RES-33C Acquisition of services and materials needed for the refurbishment of laboratory meter testing equipment with defective components.	RES-33C To ensure the availability of accurate and reliable electric meters used for billing the electric consumption of consumers.		
	Tools and Work Equipment (TWE) RES-20A Acquisition of new Tools, Shop and Garage Equipment also known as Tools and Work Equipment (TWE) requirements for deployment to various offices within MERALCO. This project shall include the following TWE: 1) Hand tools; 2) Personal and protective equipment; 3) Test and measuring instrument; 4) Work Equipment; 5) Accessories; and 6) Spare parts. RES-20B Replacement of Tools and Work Equipment (TWE), which among other things are:	RES-20A To provide the necessary tools and equipment to new MERALCO personnel in Sector Offices. To support the increasing number of residential, commercial and industrial customers, which are expected to increase from 5.63 Million customers in RY2015to 5.79 Million this coming RY2016,or about 2.91% customer growth. With the proposed additional TWE, it will strengthen the MERALCO's committed system reliability performance while having the appropriate safety and personal protective equipment (PPE) to com I with the latest safe rules and regulations for employees, customers and the general public. RES-20B To replace existing TWE that are either defective, beyond repair, obsolete, or had exceeded their economic life. These tools and equipment are needed in the operation of distribution system, especially for the repair and maintenance of distribution facilities. The proposed replacement of said TWE, aims to maintain and improve system reliability and performance in support with MERALCO'scommitted service levels as a distribution utility.	170, 633 ,545.00	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	various protective covers, inner bucket liners, portable generators, ampact tools, loadbusters, burndy tools, and running boards, for deployment to various offices within MERALCO			
	Replacement and Upgrading of Security Systems at Business Centers involves the replacement of Compact Digital Cameras, Dental Chairs, Ultrasound Machine and obsolete and defective medical equipment of the MERALCO Corporate Wellness Center. Acquisition of vanous printing and cutting equipment with the following minimum specifications: a. White Printing Machine - KIP 700m Large Format Copier, Printer and Scanner b. Super Digital Duplicator - Risograph MZ1070 c. Polar SD-P Cutting Machine Supply & installation of CCTV at Business Center	RES-22B.1 To make a phased replacement of all aging and obsolete Digital Cameras of MERALCO. It is also to keep pace with the business requirements of the different organizations in serving the needs of its customers. RES-24B.1 To replace various miscellaneous equipment which are already obsolete and defective. Such equipment are becoming unreliable and the cost of maintaining the same in the long run is equivalent to their acquisition cost. RES-24B.3 To replace various printing and cutting equipment that have already exceeded their standard economic life. While these equipment are still capable of delivering their designed purpose, the cost of maintaining them already exceed their replacement costs. In fact, for the past two years, these existing equipment for replacement have experienced thirty (30) number of breakdowns. RES-36B To replace and upgrade surveillance systems/CCTV systems that provides security and monitoring of company assets in various MERALCO business centers. Additionally, the replacement and upgrading of these CCTV systems will aid acquiring or gathering evidence once safety and security incidents arise should there be a security breach.	39,576,137.00	
	Office Furniture and Equipment (OFE) RES-18A Acquisition of four (4) additional units of multimedia projector which will be allocated in the following offices within MERALCO: (1) Financial Reporting; (2)	RES-18A With the acquisition of the projector, it is expected that the communication of information and materials, will imProve, thereby maximizing MERALCO'sproductivity, time and resources. In addition, having a multimedia projector will lessen the necessity for handouts. This means that MERALCO will be able to save on ink and paper. RES-18B The replacement of desks/tables, chairs and cabinets under this asset category is essential as the same would provide a safer and healthier working environment for	23,424,800.00	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	Program Management; (3) Power System Protection; and (4) Substation. RES-18B Replacement of OFE items that are either already beyond repair, too worn out for safe and comfortable use, obsolete or had exceeded their economic life. The OFE that are proposed to be replaced are desks/tables, chairs, cabinets and multimedia projectors which will be assigned in various offices within MERALCO. RES-31A Acquisition of various OFE, i.e., desks, tables, chairs, cabinets and other related items, which shall be allocated in MERALCO'sproposed two (2) new Business Centers (BCs) located in Montalban and Sapang Palay. The same likewise involves the purchase of one (1) unit of multimedia projector for Marketing Office. RES-31B Replacement of OFE items that are either already beyond repair too worn out for safe and comfortable use, obsolete or have exceeded their economic life. The OFE that are proposed to be replaced are desks/tables, chairs, cabinets and multimedia projectors	employees. It would also ensure efficient and continuous workflow in the offices thereby enhancing their output and productivity. In addition, office items and materials (i.e., maintenance manuals, technical papers, layout plans, contracts etc.) will be kept in an organized and secured manner. On the other hand, the replacement of the MMPs are necessary since the MMPs sought to be replaced are already obsolete and beyond their economic lives. Notably, these MMPs are needed for ease of communication of information and materials which would maximize MERALCOproductivity, time and resources. It should be noted that the replacement of the OFE is preferred over refurbishment of units because generally, "extended life units" are too costly to repair in the long run. RES-31A The OFE complement is intended to adequately accommodate not only the employees in the BCs but transacting customers as well. On the part of the customers, having the necessary OFE will improve their disposition and leave them with a positive experience. In addition, having a multimedia projector will lessen the necessity for handouts. This means that MERALCO will be able to save on ink and paper. RES-31B The replacement of desks/tables, chairs and cabinets under this asset category is essential as the same would provide a safer and healthier working environment for employees. It would also ensure efficient and continuous workflow in the offices thereby enhancing their output and productivity. In addition, office items and materials (i.e., maintenance manuals, technical papers, layout plans, contracts etc.) will be kept in an organized and secured manner. On the other hand, the replacement of the MMPs are necessary since the MMPs sought to be replaced are already obsolete and beyond their economic lives. Notably, these MMPs are needed for ease of communication of information and materials which would maximize MERALCOproductivity, time and resources. It should be noted that the replacement of the OFE is preferred over refurbishment of units because generally, "extended life units" are too costly to repair in the long run.		

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	which are assigned in various offices within MERALCO.			
	Innovative and Technology Solutions RES-14A/RES-14C.1 The project under this asset category involves the installation of a Distribution Transformer Monitoring Equipment (DTME) in selected newly installed distribution transformers (DTs) located in areas with remarkably high load growth. The DTME aims to monitor the loading of these new DTs and to have a real-time visibility on the performance and status of the DTs to ensure its optimal operation over its economic life. RES-15A.3 This asset category involves two (2) projects for the purchase ofthe corresponding back-end system in support of the proposed acquisition of the Distribution Transformer Monitoring Equipment (DTME) units (as discussed in Residual CAPEX Project proposal template for RES - 14A and RES-14B), and acquisition of system and infrastructure for the Microgrid Project. RES-15B3 This asset category involves two (2) projects for the urchase of 3D Substation As-built Modelling and Dynamic	RES-14A/RES-14C.1 The DTME will enable MERALCO to have the necessary visibility on the performance and status of DTs to ensure its optimal operation over its economic life. DTME provides a clear, continuous view of the operating efficiencies of DTs and allows the immediate notification to the distribution utility in the event of power outages. It also provides a tangible input in the detection of pilferage occurring in the secondary system of the transformer. DTME converts every simple DT into an intelligent node that can yield powerful insight to the DT's performance, power quality, efficiency and status. With this device, MERALCO could proactively identify mal-performing transformers, allowing them to plan outages for surgical asset replacement, or to perform preventative maintenance. RES-15A.3 a. Distribution Transformer Monitoring Equipment Based on the demonstration projects conducted by MERALCO, this technology is valuable in: Asset Management maps the health of your DTs locates impending DT failures identifies load balancing and power flow identifies voltage swell/sag and Power Quality (PQ) problems provides performance profiles for asset planning and management Outage Detection and Analysis expedites outage notification and restoration assist in planning of pre-arranged interruption minimizes SAIDI and unserved energy Revenue Protection/Electricity Theft Detection detects electricity theft and secondary system losses validates if meters are reading accurately through auditing Support to Renewable Energy Integration/Penetration identifies voltage swell/sag and PQ problems identifies load balancing and power flow Support to Demand Response and Integrated Volt-Var Optimization Provides information on the peak demand reduction	43,016,667.00	

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
	Display Wall to replace the existing obsolete substation as-built drawings and outdated paper maps, respectively.	Provides feedback on the real time voltage of the secondary system b. Microgrid Pilot Project The various commercial deployments and demonstration projects across different countries, supplemented by the feasibility study conducted by MERALCO specific to the local setting, validated the benefits of Microgrids which are summarized as follows: Reliability and Power Quality Improved Through automatic and seamless isolation from the main grid which prevents disruption ofloads Provides resiliency to severe weather condition, natural disasters, system blackout, etc. System Optimization and Improved Efficiency On-site generation decreases system loss Lower Energy Cost Optimization of the mix of the distributed energy resources (DER) dispatch, battery energy storage, and energy imported or exported from/to the main grid Ability to Participate in Demand Response Programs Candidate participant in Demand Response (DR) programs due to its capability of islanding from main grid Excess power can be exported to the main grid Promotion of non-conventional energy resources or reduction of GHG Emissions Environmental benefits by potential utilization of renewableenergy resources due to easier RE integration RES-31A a. Three Dimensional (3D) Substation As.built Modelling Based on the demonstration projects conducted by MERALCO, this technology is valuable in: Improvement in safety Minimizes the level of exposure and the amount of time personnel have to spend in high-risk areas like switchyards Accurate as-built data of energized installation can be modelled and used as simulation tool before performing hazardousactivities		

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APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
		Improvement in operational efficiency Vast amounts of data can be captured, reducing the need for personnel to return to the survey area time and time again Large areas can be surveyed, providing a database of information that can be accessed and interrogated without having to return to the site Downtime can be reduced as surveys can be carried out faster with less interruption 3D data can be used to improve installation times on costly projects by identifying tight spots and pinch points prior to installation. Quality assurance and quality control Scanning can be used to verify the accuracy of an installation and alignment with the standards Any deviations can be picked up and rectified early in a project's inception before they cause project delays. Asset Management Provides more accurate and more detailed as-built drawings giving full documentation of facilities which could be used for further engineering analysis and future reference Allows potential contractors access to site for job estimation, design, etc. without need to visit or disturb operations and security. b) Modernization of Operations Dispatch Center This project is primarily designed to support Supervisory Control and Data Acquisition (SCADA),Advanced Distribution Management System (ADMS) and Integrated Mobile Computing Solution (IMCS) operations in the sector level to provide the needed situational awareness for dispatchers. These equipment are vital to thegenerations of MERALCO since thev are contributory to the improvement of response time during power outages and III the efficient execution of various distribution expansion projects. With the Dynamic Display Wall, it will result in faster coordination of power restoration activities especially during storm conditions by having a display of statistics and information relevant to the analysis of the situation. The following can be simultaneously displayed on the video wall: 1. The display wall is intended for showing the entire MERALCO single line diagram using the SCADAsystem, GIS and ADMS. 2. It will also display the actual location and status of dispatched crews using the IMCS. 3. It will display real-time system updates to System Operations Engineers to enhance engagements while tackling and resolving a system outage and in handling contingency situations.		

Annex 10. ERC Approved Capital Expenditure Projects as of 30 April 2016

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
		4. It will facilitate coordination of power restoration activities during massive outages by having a display of relevant statistics and information on the impact of the current system disturbance. 5. It displays track of typhoon that may threaten the franchise andhelp in decision making. From demonstration projects/feasibility studies that were conducted by MERALCO, it has been determined that this new technology will be valuable in Outage Detection and Analysis, particularly in terms of: (1) reducing response time by providing the extent of outage by around 18 minutes; (2) expediting outage notification and restoration; and (3) minimizing unserved energy and SAIDI.		

Source: ERC website

Annex 11. NPC-incurred Amount on Grant of Mandatory Rate Reduction

Billing Month	MERALCO	REST OF LUZON	TOTAL LUZON	VISAYAS	MINDANAO	TOTAL
2001						1,682,000,000.00
2002						3,051,860,000.00
2003						3,223,300,000.00
2004						3,467,100,000.00
2005						3,267,100,000.00
2006						2,624,120,000.00
2007						2,679,840,000.00
2008	786,079,461.86	832,317,675.85	1,618,397,137.71	561,119,367.51	635,133,615.12	2,814,650,120.34
2009	588,151,359.71	706,070,755.91	1,194,222,115.62	566,935,169.51	689,177,083.02	2,550,334,367.15
2010	202,192,491.42	83,694,601.88	285,887,093.30	427,552,082.83	714,165,916.31	1,427,545,092.44
2011	101,220,503.49	53,654,853.12	155,448,933.21	269,063,509.57	742,749,200.70	1,167,291,643.48
2012	17,089,283.62	17,148,265.50	34,237,549.12	226,319,497.74	714,532,284.67	975,089,331.53
2013	5,709,192.08	0.00	5,709,192.08	213,015,951.12	699,932,744.81	918,657,888.01
2014	-	-	-	170,046,642.19	738,280,984.52	908,327,626.71
January-15	-	-	-	2,880,825.99	52,985,437.72	55,866,263.71
February-15	-	-	-	2,528,586.80	53,081,511.45	55,610,098.25
March-15	-	-	-	1,823,548.22	49,670,485.01	51,494,033.23
April-15	-	-	-	2,386,645.40	51,278,493.95	53,665,139.35
May-15	-	-	-	2,961,698.64	49,473,822.26	52,435,520.90
June-15	-	-	-	3,299,287.92	51,187,883.72	54,487,171.64
July-15	-	-	-	3,430,054.53	44,687,161.80	48,117,216.33
August-15	-	-	-	2,846,599.09	42,265,605.65	45,112,204.74
September-15	-	-	-	2,363,991.24	45,952,136.29	48,316,127.53
October-15	-	-	-	1,524,909.43	48,465,110.3	49,990.019.73
November-15	-	-	-	1,379,202.45	42,598,493.39	43,977,695.84
December-15	-	-	-	1,459,777.97	42,930,723.67	44,390,501.64
TOTAL	**1,700,442,292.18**	**1,692,886,152.26**	**3,293,902,021.04**	**2,462,937,348.15**	**5,508,548,694.36**	**31,360,678,062.55**

Source: NPC